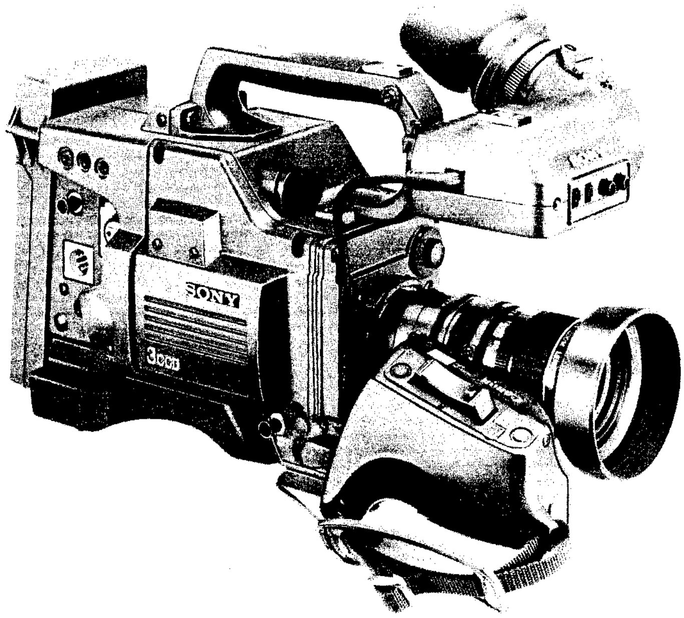
COLOR VIDEO CAMERA
CAMERA ADAPTOR
1.5INCH ELECTRONIC VIEWFINDER
ZOOM LENS

DXC-325P
CA-325P
DXF-325CE
VCL-810BX

VOL. 2 Revised-1
BLOCK DIAGRAMS
SEMICONDUCTORS
SCHEMATIC DIAGRAMS
BOARD ILLUSTRATIONS
SPARE PARTS



SONY®
SERVICE MANUAL

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

CAUTION

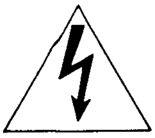
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,

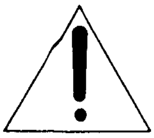
DO NOT REMOVE COVER (OR BACK).

NO USER-SERVICEABLE PARTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Warning—This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A comuputing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

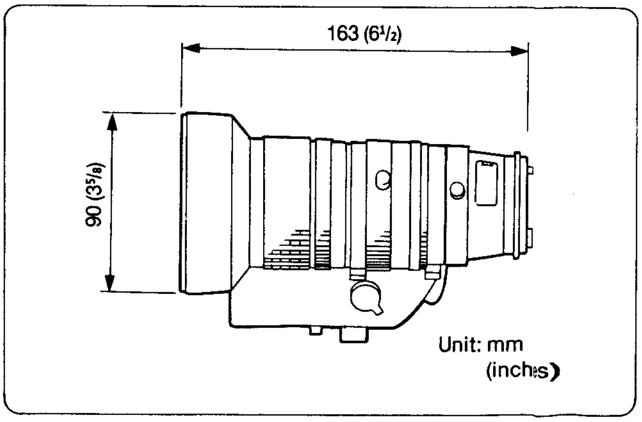
The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a computing device pursuant to Subpart J of Part 15 of FCC Rules.

ZOOM LENS

SPECIFICATIONS

Focal length	8 to 80 mm
Zoom	Manual and motorized, selectable Zooming ratio: 10 ×
Maximum aperture ratio	1.4
Iris control	Manual and auto, selectable 1.4 to 16 and C (closed)
Range of object field (at the distance of 1.1 m)	W (wide angle): 622 × 829 (24$\frac{1}{2}$ × 32$\frac{3}{4}$ inches) T (telephoto): 65 × 87 mm (2$\frac{5}{8}$ × 3$\frac{1}{2}$ inches)
Minimum object distance	1.1 m
Filter thread	62 mm dia., 0.75 pitch
Mount	Bayonet mount
Weight	Approx. 920g (2 lb) with lens hood
Supplied accesory	Operating instructions (1)

Dimensions



Design and specifications are subject to change without notice.

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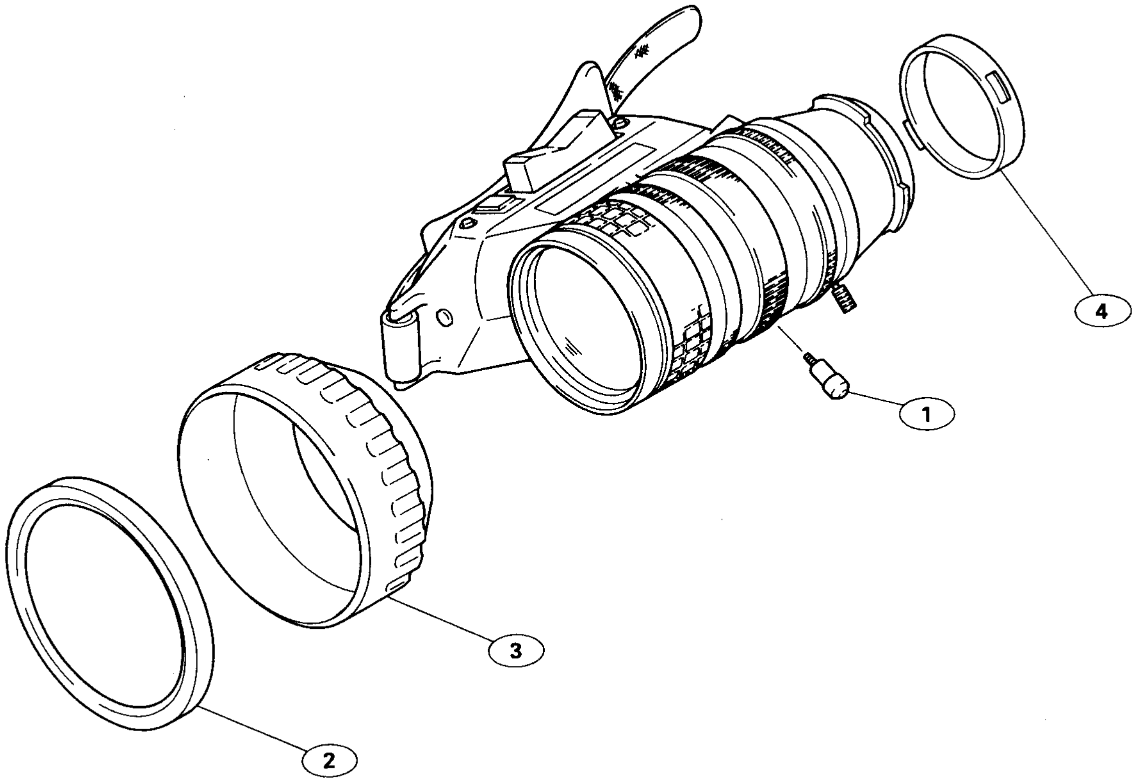
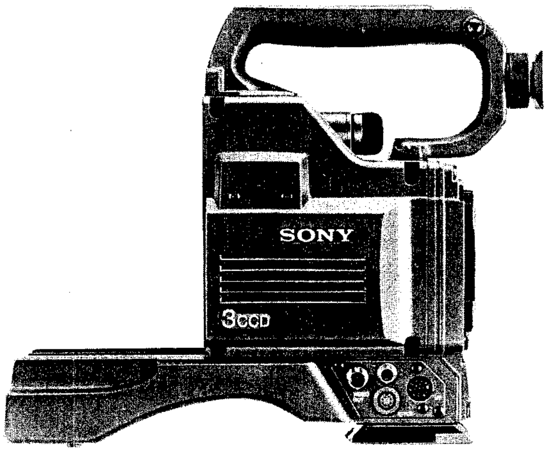
No.	Parts No.	SP	Description
1	3-707-037-01	o	LEVER, ZOOM
2	3-707-544-01	o	CAP, FOOD
3	3-707-545-01	o	FOOD
4	3-707-546-01	o	CAP, DUST



COLOR VIDEO CAMERA



SPECIFICATIONS

Camera head (DXC-325/325P) and camera adaptor (CA-325/325P)

Image device	Interline-transfer CCD, 3-chip
Picture elements	510 × 492 (h/v) (NTSC) 500 × 582 (h/v) (PAL)
Sensing area	6.4 mm × 4.8 mm (equivalent to a 1/2-inch pickup tube)
Built-in filters	1: 3200 K 2: 5600 K + 1/8 ND 3: 5600 K
Lens mount	Bayonet mount
Signal system	EIA standards, NTSC color system (for DXC 325) CCIR standards, PAL color system (for DXC 325P)
Scanning system	525 lines, 2:1 interlace, 30 frames/sec. (NTSC) 625 lines, 2:1 interlace, 25 frames/sec. (PAL)
Scanning frequency	Horizontal: 15.734 kHz (NTSC) 15.625 kHz (PAL) Vertical: 59.94 Hz (NTSC) 50.00 Hz (PAL)
Sync system	Internal External with the BS or VBS signal supplied to the GEN LOCK input connector or the reference signal input to the VTR/CCU/CMA connector from the GEN LOCK connector of the CCU-M3/M3P
Horizontal resolution	530 lines (center)
Minimum illumination	20 lux with F1.4, + 18 dB (NTSC) 20 lux with F1.4, + 18 dB (PAL)
Sensitivity	2000 lux with F5.0, at 3200 K (NTSC) 2000 lux with F5.0, at 3200 K (PAL)
Gain selection	0 dB, 9 dB or 18 dB, selectable
Video output	Composite signal: 1.0 V(p-p), sync negative, 75Ω unbalanced Y/C separate signal: Y: 1.0 V(p-p), sync negative, 75Ω unbalanced C: burst level 0.286 V (NTSC) 0.3 V (PAL) 75Ω without sync
Signal to noise ratio	58 dB (NTSC) 56 dB (PAL)
Registration	0.05 % for Zone I 0.05 % for Zone II 0.05 % for Zone III

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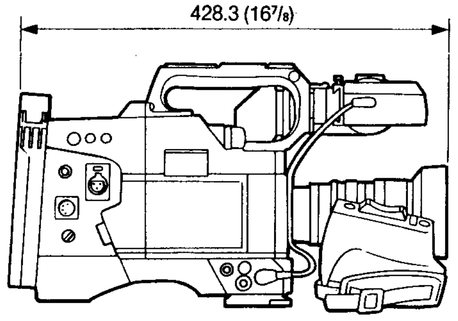
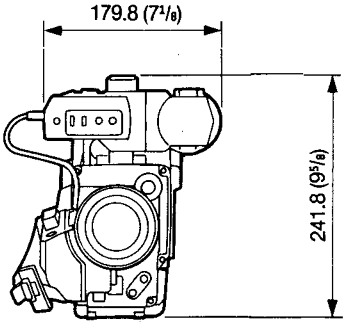
Inputs/Outputs	VTR/CCU/CMA connector: Sony Q-type, 14-pin DC IN: XLR-type, 4-pin MIC IN: XLR-type, 3-pin GEN LOCK: BNC-type VIDEO OUT: BNC-type LENS: 1/2-inch lens connector (7-pin) 2/3-inch lens connector (6-pin) VF: 8-pin EAR: mini jack INTERCOM: mini intercom TITLE: 8-pin
Power requirements	12 V DC
Power consumption	8 W (without viewfinder)
Operating temperature	–5°C to +45°C (23°F to 113°F)
Storage temperature	–20°C to +60°C (–4°F to 140°F)
Weight	3 kg (4 lb 7 oz)
Dimensions	See the illustrations below. Unit: mm (inches)





Carrying case (LC-325)

Weight	Approx. 4.4 kg (9 lb 8 oz)
Dimensions	Approx. 608 × 260 × 386 mm (w/h/d) (24 × 10$^{1}/_{4}$ × 15$^{1}/_{4}$ inches)

Accessories supplied

CCQ-2BRS camera cable (with Q-type 14-pin connectors) (supplied with the DXC-325K/325PK/325L/325PL only) (1)
CA-325/325P camera adaptor (supplied with the DXC-325K/325PK/325L/325PL only) (1)
VCL-810BX zoom lens (supplied with the DXC-325K/325PK only) (1)
DXF-325/325CE electronic viewfinder (supplied with the DXC-325K/325PK/325L/325PL only) (1)
LC-325 carrying case (supplied with the DXC-325K/325PK/325L/325PL only) (1)
Lens cap (1)
Chart for flange focal length adjustment (1)

Design and specifications are subject to change without notice.

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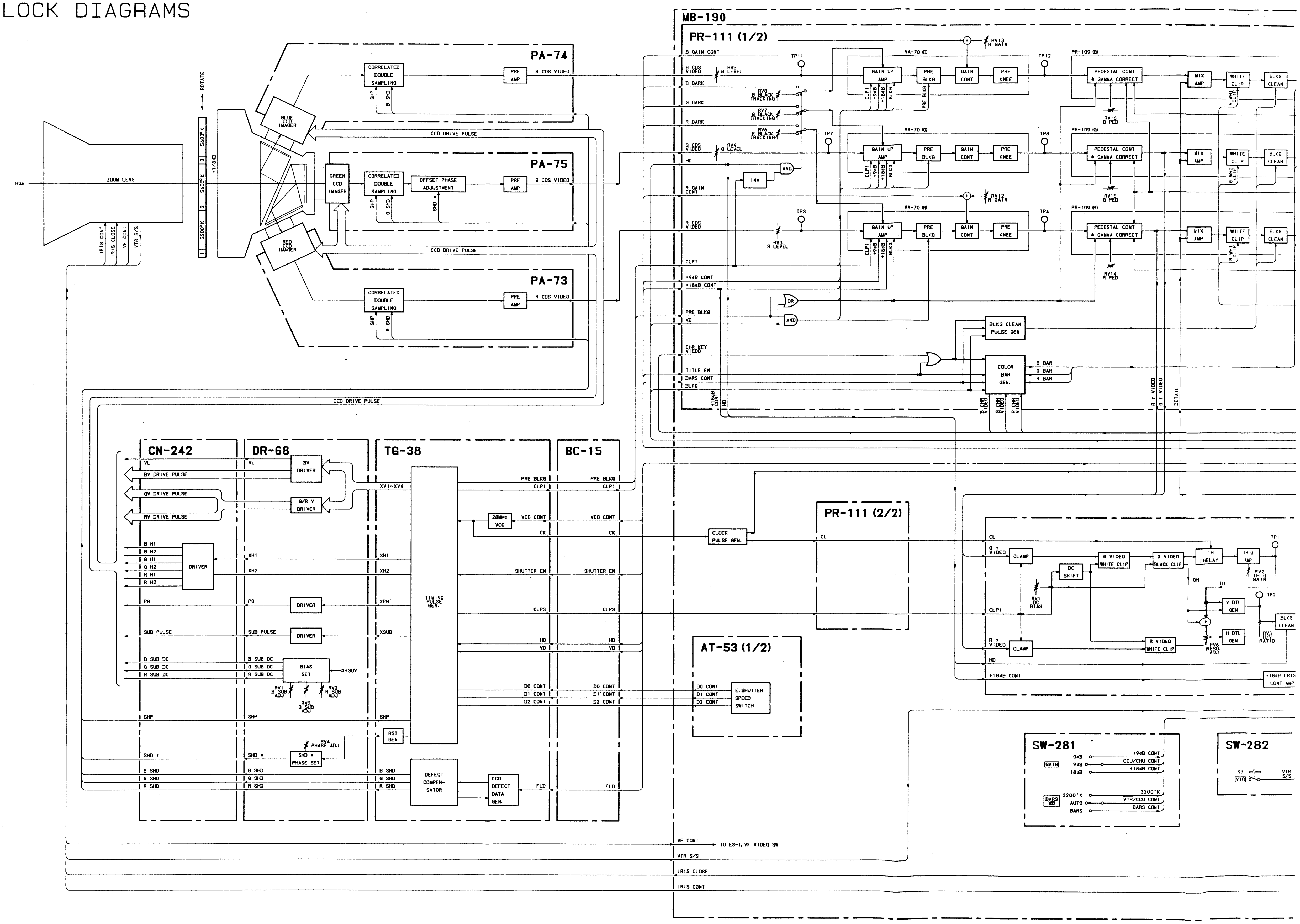
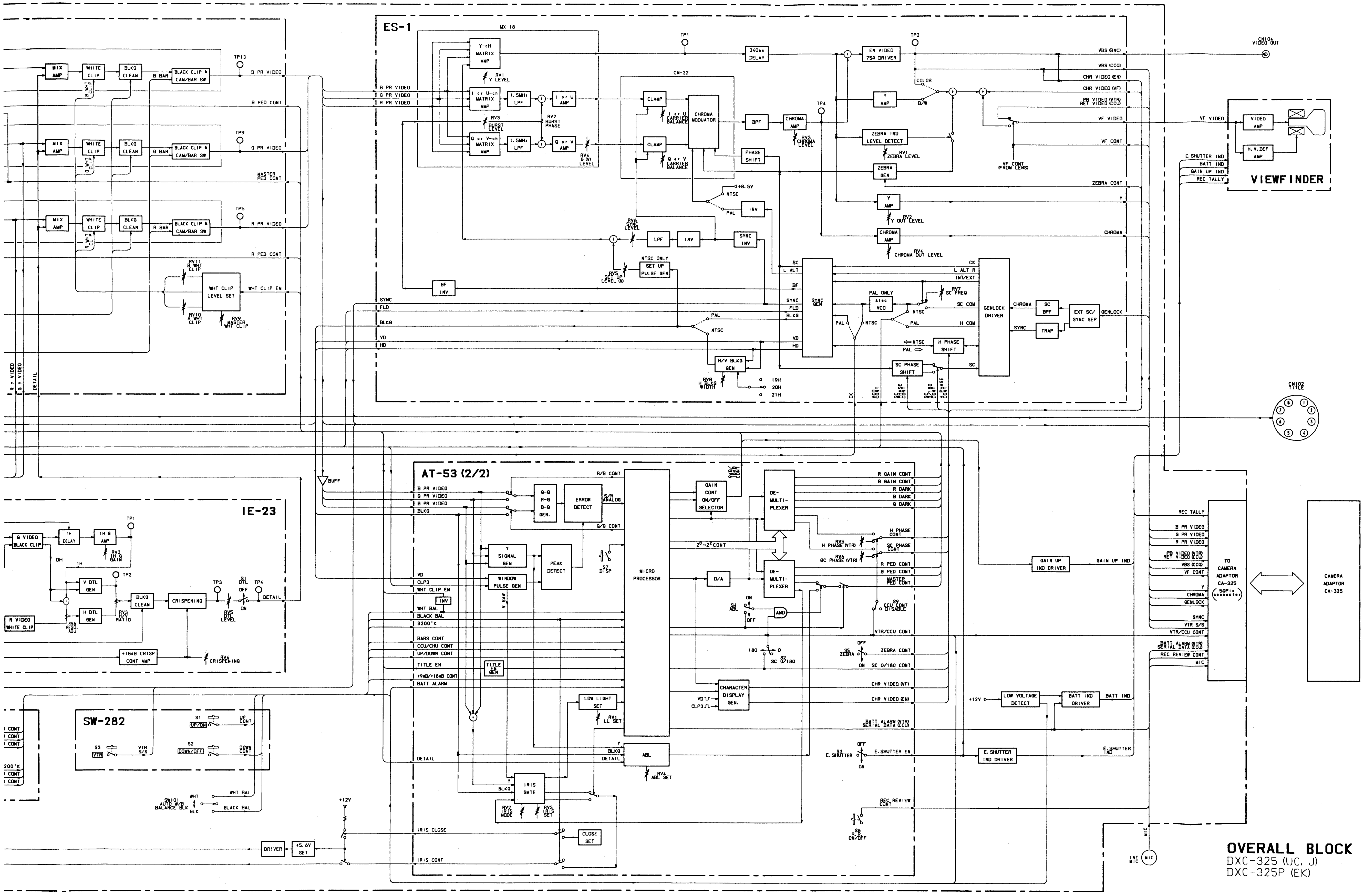
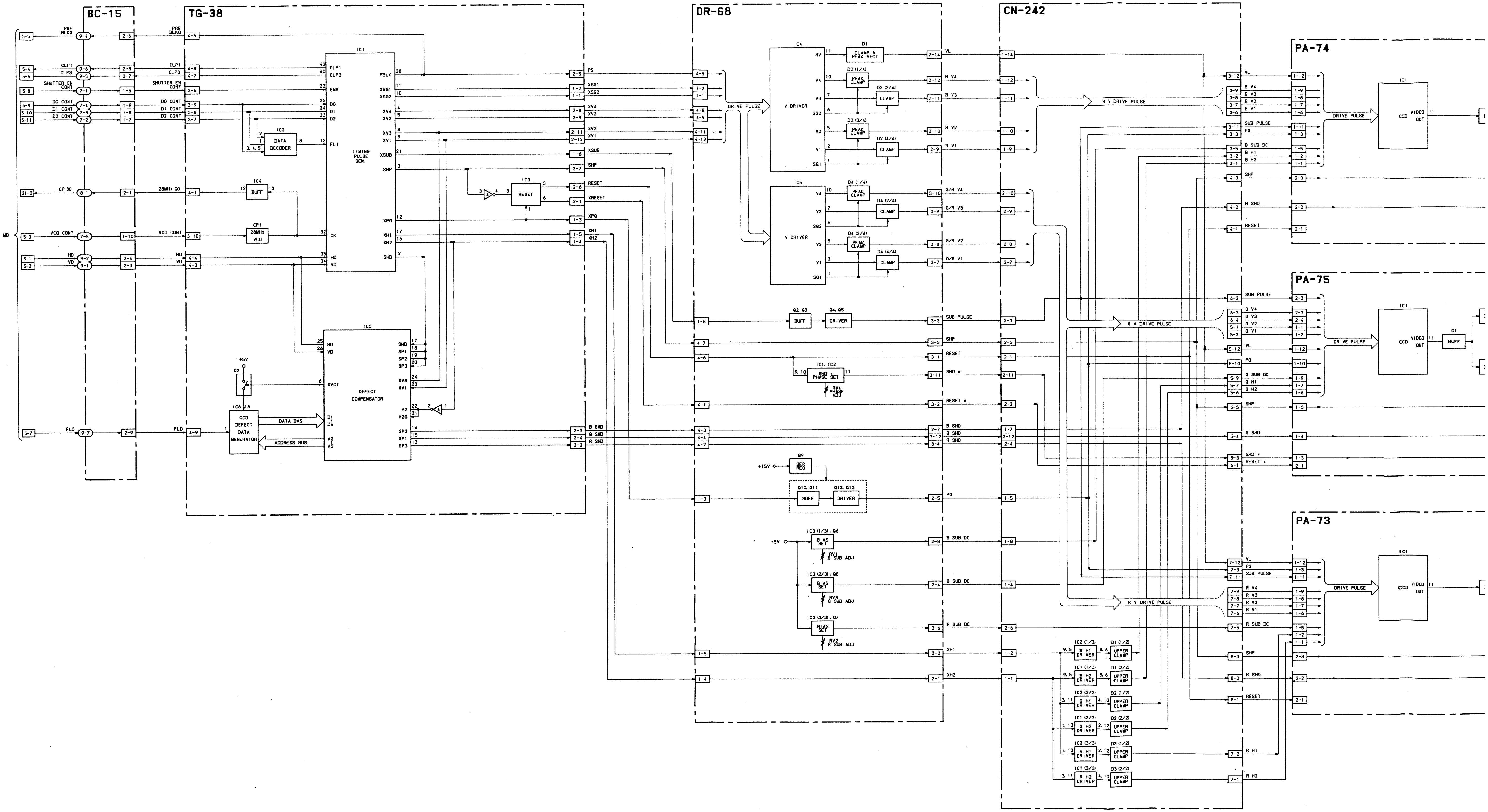
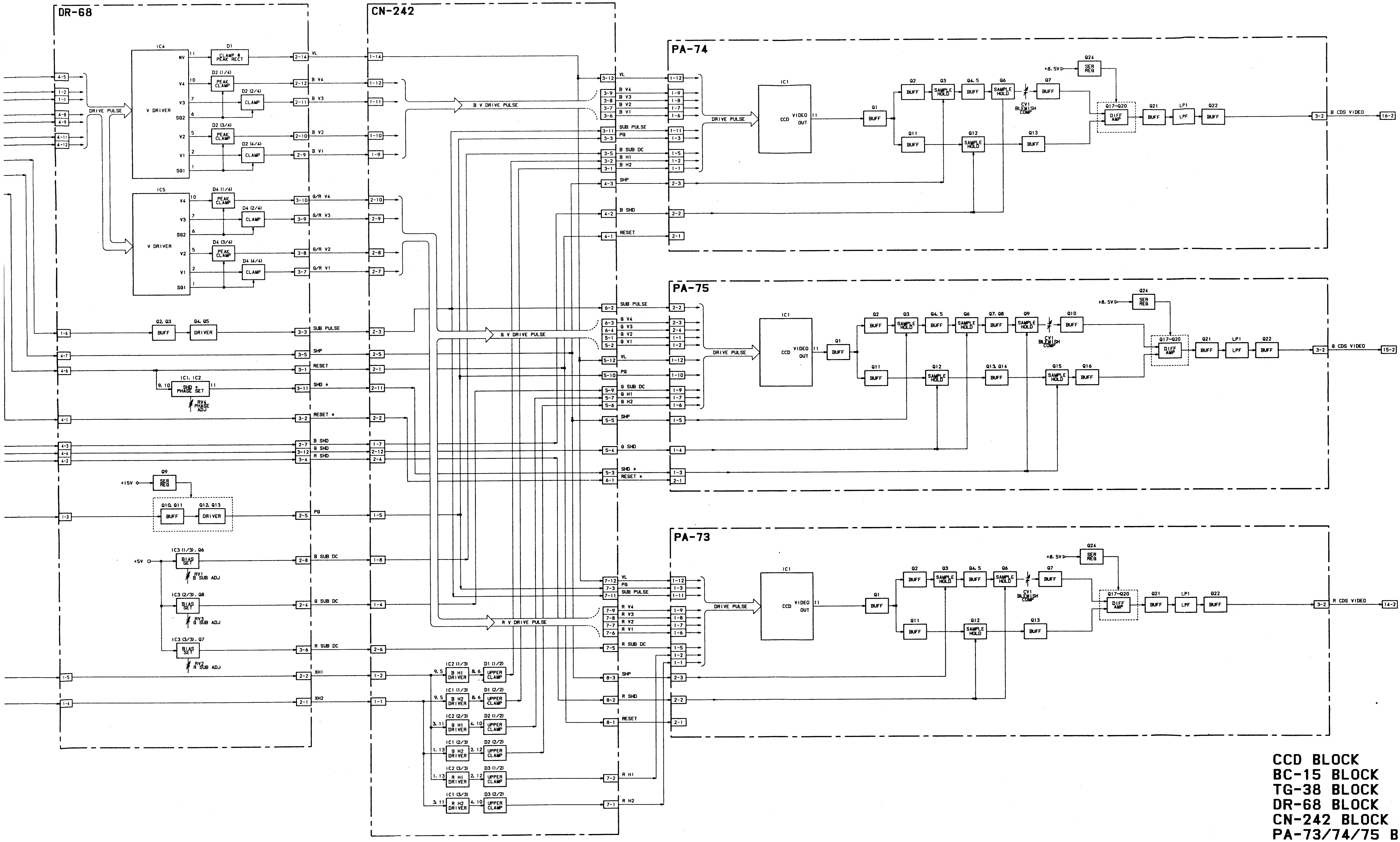
SECTION A
BLOCK DIAGRAMS


MB-190
PR-111 (1/2)
PA-74
PA-75
PA-73
ZOOM LENS
RGB
IRIS CONT
IRIS CLOSE
VF CONT
VTR S/S
BLUE CCD IMAGER
GREEN CCD IMAGER
RED CCD IMAGER
CORRELATED DOUBLE SAMPLING
OFFSET PHASE ADJUSTMENT
PRE AMP
B CDS VIDEO
G CDS VIDEO
R CDS VIDEO
CCD DRIVE PULSE
GAIN UP AMP
PRE BLKG
GAIN CONT
PRE KNEE
PEDESTAL CONT & GAMMA CORRECT
MIX AMP
WHITE CLIP
BLKG CLEAN
BLKG CLEAN PULSE GEN
COLOR BAR GEN.
INV
AND
OR
CN-242
DR-68
TG-38
BC-15
BV DRIVER
G/R V DRIVER
DRIVER
BIAS SET
SHD PHASE SET
RST GEN
TIMING PULSE GEN.
28MHz VCO
DEFECT COMPEN-SATOR
CCD DEFECT DATA GEN.
PR-111 (2/2)
CLOCK PULSE GEN.
AT-53 (1/2)
E. SHUTTER SPEED SWITCH
CLAMP
DC SHIFT
G VIDEO WHITE CLIP
G VIDEO BLACK CLIP
R VIDEO WHITE CLIP
1H DELAY
1H G AMP
V DTL GEN
H DTL GEN
SW-281
SW-282
VF CONT → TO ES-1, VF VIDEO SW
VTR S/S
IRIS CLOSE
IRIS CONT


ES-1
MX-18
Y-ch MATRIX AMP
RV1 Y LEVEL
I or U-ch MATRIX AMP
Q or V-ch MATRIX AMP
1.5MHz LPF
I or U AMP
Q or V AMP
RV3 BURST LEVEL
RV2 BURST PHASE
RV4 Q (V) LEVEL
CM-22
CLAMP
CHROMA MODULATOR
I or U CARRIER BALANCE
Q or V CARRIER BALANCE
PHASE SHIFT
BPF
CHROMA AMP
RV3 CHROMA LEVEL
340ns DELAY
EN VIDEO 75Ω DRIVER
TP1
TP2
TP4
COLOR
B/W
Y AMP
ZEBRA IND LEVEL DETECT
RV1 ZEBRA LEVEL
ZEBRA GEN
Y AMP
RV2 Y OUT LEVEL
CHROMA AMP
RV4 CHROMA OUT LEVEL
VF CONT (FROM LENS)
VBS (ENC)
VBS (CCU)
CHR VIDEO (EN)
CHR VIDEO (VF)
PB VIDEO (VTR) RET VIDEO (CCU)
VF VIDEO
VF CONT
ZEBRA CONT
Y
CHROMA
CN104 VIDEO OUT
VIEWFINDER
VIDEO AMP
H.V.DEF AMP
E.SHUTTER IND
BATT IND
GAIN UP IND
REC TALLY
+8.5V
NTSC
PAL
INV
RV6 SYNC LEVEL
LPF
INV
SYNC INV
RV5 SET UP LEVEL (N)
NTSC ONLY SET UP PULSE GEN
BF INV
SYNC
FLD
BLKG
VD
HD
H/V BLKG GEN
RV8 H BLKG WIDTH
19H
20H
21H
SC
L ALT
BF
SYNC GEN
PAL ONLY
4fsc VCO
RV7 SC FREQ
SC COM
H COM
H PHASE SHIFT
SC PHASE SHIFT
GENLOCK DRIVER
CK
L ALT R
INT/EXT
CHROMA
SC BPF
TRAP
EXT SC/ SYNC SEP
GENLOCK
CK
VCO CONT
SC PHASE CONT
SC 0/180 CONT
H PHASE CONT
CN102 TITLE
MIX AMP
WHITE CLIP
BLKG CLEAN
BLACK CLIP & CAM/BAR SW
B BAR
G BAR
R BAR
TP13
TP9
TP5
B PR VIDEO
B PED CONT
G PR VIDEO
MASTER PED CONT
R PR VIDEO
R PED CONT
B WHT CLIP
G WHT CLIP
R WHT CLIP
RV11 B WHT CLIP
RV10 R WHT CLIP
RV9 MASTER WHT CLIP
WHT CLIP LEVEL SET
WHT CLIP EN
R Y VIDEO
G Y VIDEO
DETAIL
BUFF
IE-23
G VIDEO BLACK CLIP
1H DELAY
1H G AMP
RV2 1H G GAIN
TP1
0H
1H
2H
V DTL GEN
H DTL GEN
TP2
BLKG CLEAN
CRISPENING
TP3
TP4
S1 DTL
OFF
ON
RV5 DTL LEVEL
DETAIL
R VIDEO WHITE CLIP
RV6 H/V RATIO
RV3 H/V RATIO
+18dB CRISP CONT AMP
RV4 CRISPENING
SW-282
S1 UP/ON
UP CONT
S2 DOWN/OFF
DOWN CONT
S3 VTR
VTR S/S
SW101 AUTO W/B BALANCE
WHT
BLK
WHT BAL
BLACK BAL
DRIVER
+5.6V SET
+12V
IRIS CLOSE
IRIS CONT
AT-53 (2/2)
R/B CONT
B PR VIDEO
G PR VIDEO
R PR VIDEO
BLKG
G-G R-G B-G GEN.
ERROR DETECT
S/H ANALOG
G/G CONT
Y SIGNAL GEN
WINDOW PULSE GEN
PEAK DETECT
S7 DISP
VD
CLP3
WHT CLIP EN
INV
WHT BAL
BLACK BAL
3200°K
BARS CONT
CCU/CHU CONT
UP/DOWN CONT
TITLE EN
TITLE EN GEN
+9dB/+18dB CONT
BATT ALARM
LOW LIGHT SET
RV1 LL SET
MICRO PROCESSOR
Y
BLKG
DETAIL
ABL
RV4 ABL SET
IRIS GATE
RV2 IRIS MODE
RV3 IRIS SET
CLOSE SET
GAIN CONT ON/OFF SELECTOR
GAIN CONT
DE-MULTI-PLEXER
2⁰-2⁷ CONT
D/A
R GAIN CONT
B GAIN CONT
R DARK
B DARK
G DARK
H PHASE CONT
RV5 H PHASE (VTR)
RV6 SC PHASE (VTR)
SC PHASE CONT
R PED CONT
B PED CONT
MASTER PED CONT
S4 ABL
ON
OFF
AND
S9 CCU CONT DISABLE
VTR/CCU CONT
180
0
S2 SC 0/180
S5 ZEBRA
ZEBRA CONT
SC 0/180 CONT
CHARACTER DISPLAY GEN.
VD
CLP3
CHR VIDEO (VF)
CHR VIDEO (EN)
BATT ALARM (VTR) SERIAL DATA (CCU)
S3 E.SHUTTER
E.SHUTTER EN
REC REVIEW CONT
S6 R/R ON/OFF
GAIN UP IND DRIVER
GAIN UP IND
LOW VOLTAGE DETECT
BATT IND DRIVER
BATT IND
E.SHUTTER IND DRIVER
E.SHUTTER IND
REC TALLY
B PR VIDEO
G PR VIDEO
R PR VIDEO
PB VIDEO (VTR) RET VIDEO (CCU)
VBS (CCU)
VF CONT
Y
CHROMA
GENLOCK
SYNC
VTR S/S
VTR/CCU CONT
BATT ALARM (VTR) SERIAL DATA (CCU)
REC REVIEW CONT
MIC
TO CAMERA ADAPTOR CA-325 (SOP16 connector)
CAMERA ADAPTOR CA-325
INT MIC
MIC

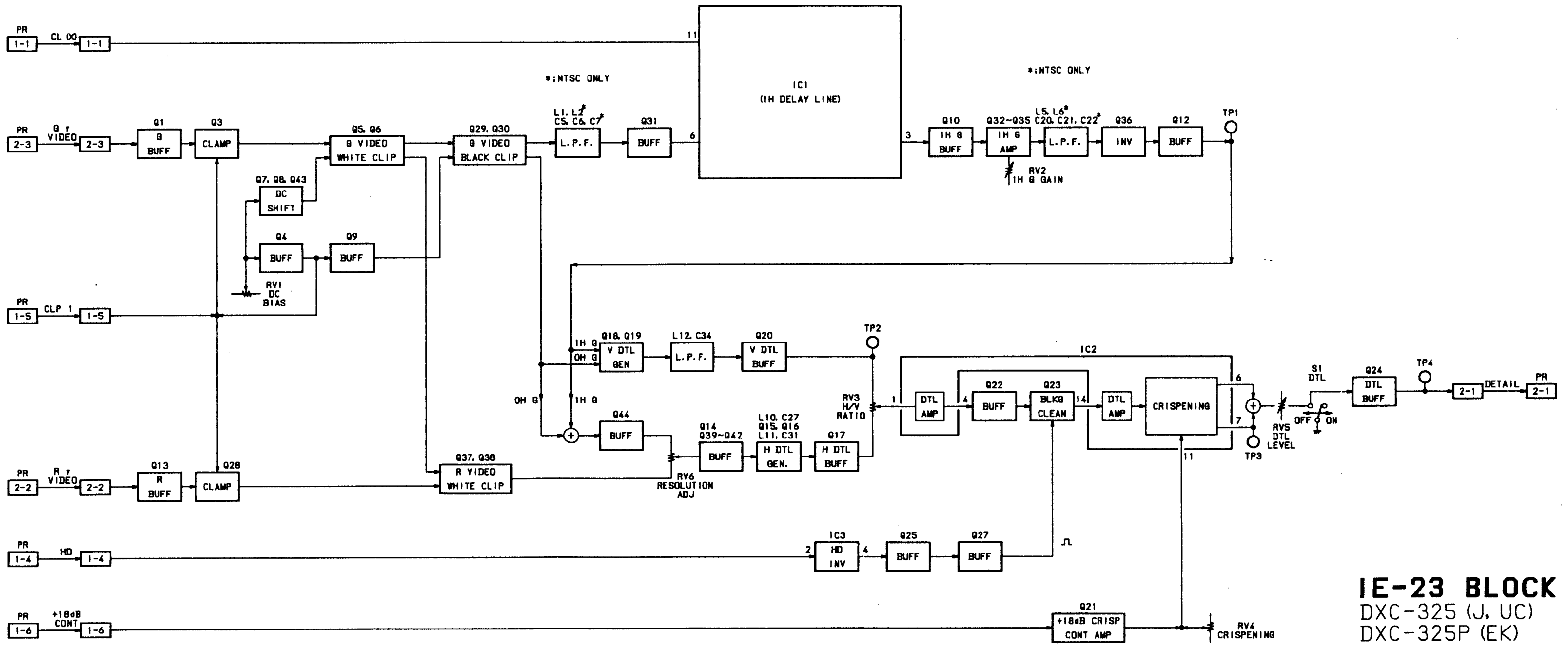
OVERALL BLOCK
DXC-325 (UC, J)
DXC-325P (EK)


MB
BC-15
TG-38
DR-68
CN-242
PA-74
PA-75
PA-73
PRE BLKG
CLP1
CLP3
SHUTTER EN CONT
D0 CONT
D1 CONT
D2 CONT
CP 00
28MHz 00
VCO CONT
HD
VD
FLD
IC1 TIMING PULSE GEN.
IC2 DATA DECODER
IC4 BUFF
CP1 28MHz VCO
IC3 RESET
IC5 DEFECT COMPENSATOR
IC6 CCD DEFECT DATA GENERATOR
DATA BAS
ADDRESS BUS
+5V
Q2
PS
XSG1
XSG2
XV4
XV2
XV3
XV1
XSUB
SHP
RESET
XRESET
XPG
XH1
XH2
B SHD
G SHD
R SHD
DRIVE PULSE
IC4 V DRIVER
IC5 V DRIVER
D1 CLAMP & PEAK RECT
PEAK CLAMP
CLAMP
VL
B V4
B V3
B V2
B V1
G/R V4
G/R V3
G/R V2
G/R V1
Q2, Q3 BUFF
Q4, Q5 DRIVER
SUB PULSE
IC1, IC2 SHD * PHASE SET
RV4 PHASE ADJ
SHD *
RESET *
+15V
Q9 SER REG
Q10, Q11 BUFF
Q12, Q13 DRIVER
PG
IC3 (1/3), Q6 BIAS SET
RV1 B SUB ADJ
IC3 (2/3), Q8 BIAS SET
RV3 G SUB ADJ
IC3 (3/3), Q7 BIAS SET
RV2 R SUB ADJ
B SUB DC
G SUB DC
R SUB DC
B V DRIVE PULSE
G V DRIVE PULSE
R V DRIVE PULSE
B H1 DRIVER
B H2 DRIVER
G H1 DRIVER
G H2 DRIVER
R H1 DRIVER
R H2 DRIVER
UPPER CLAMP
B H1
B H2
G H1
G H2
R H1
R H2
CCD
VIDEO OUT
Q1 BUFF

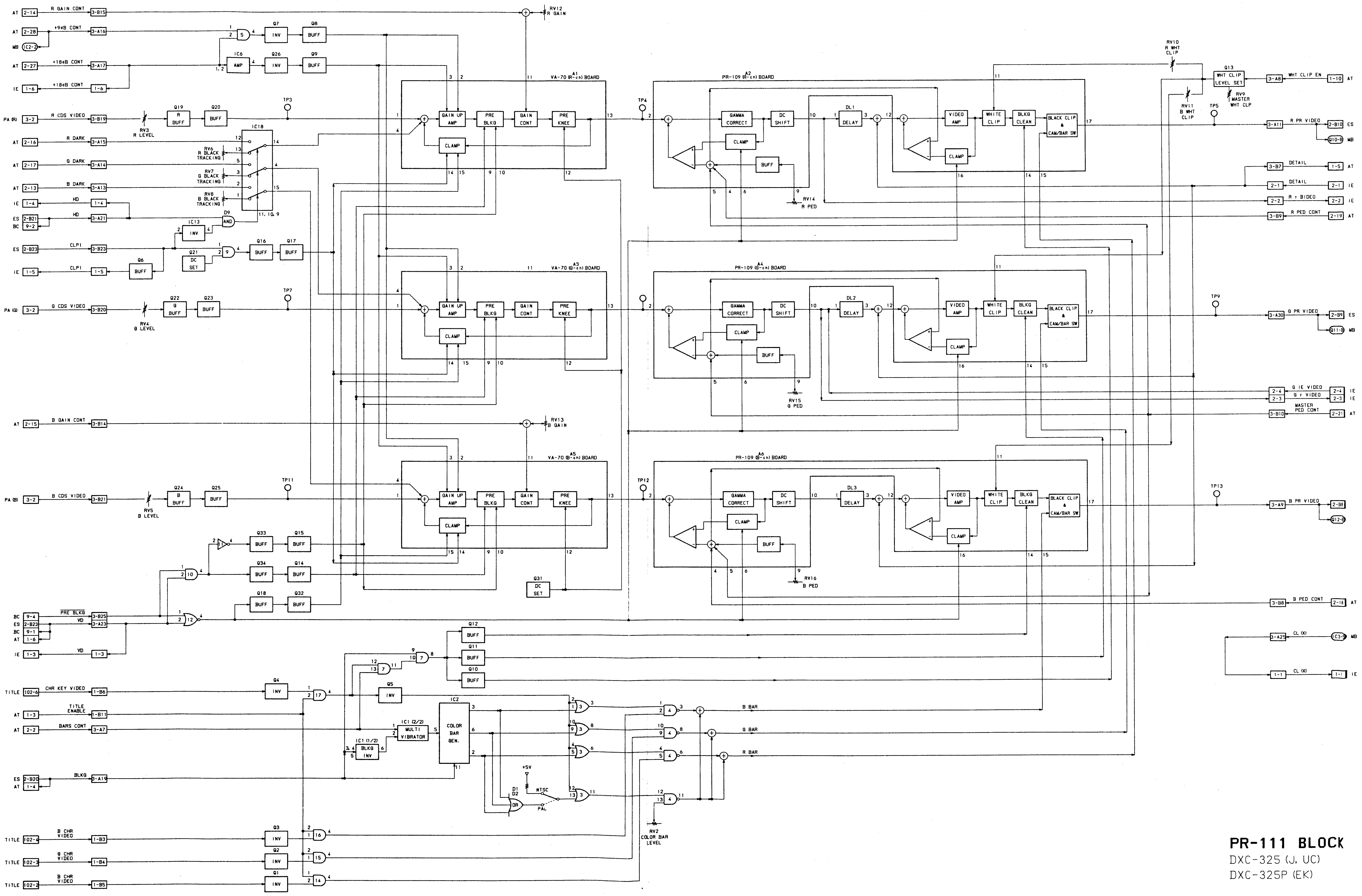

DR-68
CN-242
PA-74
PA-75
PA-73
IC4
V DRIVER
IC5
V DRIVER
DRIVE PULSE
CLAMP & PEAK RECT
PEAK CLAMP
CLAMP
BUFF
DRIVER
SHD PHASE SET
RV4 PHASE ADJ
SER REG
BIAS SET
RV1 B SUB ADJ
RV3 G SUB ADJ
RV2 R SUB ADJ
+15V
+5V
B V DRIVE PULSE
G V DRIVE PULSE
R V DRIVE PULSE
B H1 DRIVER
B H2 DRIVER
G H1 DRIVER
G H2 DRIVER
R H1 DRIVER
R H2 DRIVER
UPPER CLAMP
VL
B V4
B V3
B V2
B V1
G/R V4
G/R V3
G/R V2
G/R V1
SUB PULSE
SHP
RESET
SHD *
RESET *
B SHD
G SHD
R SHD
PG
B SUB DC
G SUB DC
R SUB DC
XH1
XH2
B H1
B H2
G H1
G H2
R H1
R H2
IC1
CCD
VIDEO OUT
SAMPLE HOLD
CV1 BLEMISH COMP
DIFF AMP
LPF
+8.5V
B CDS VIDEO
G CDS VIDEO
R CDS VIDEO

CCD BLOCK
BC-15 BLOCK
TG-38 BLOCK
DR-68 BLOCK
CN-242 BLOCK
PA-73/74/75 BLOCK

DXC-325 (J, UC)
DXC-325P (EK)


PR
1-1
CL 00
1-1
*;NTSC ONLY
IC1
(1H DELAY LINE)
11
6
3
PR
2-3
G γ VIDEO
2-3
Q1
G BUFF
Q3
CLAMP
Q5, Q6
G VIDEO WHITE CLIP
Q29, Q30
G VIDEO BLACK CLIP
L1, L2*
C5, C6, C7*
L.P.F.
Q31
BUFF
Q7, Q8, Q43
DC SHIFT
Q4
BUFF
Q9
BUFF
RV1
DC
BIAS
*;NTSC ONLY
Q10
1H G BUFF
Q32~Q35
1H G AMP
RV2
1H G GAIN
L5, L6*
C20, C21, C22*
L.P.F.
Q36
INV
Q12
BUFF
TP1
PR
1-5
CLP 1
1-5
1H G
OH G
Q18, Q19
V DTL GEN
L12, C34
L.P.F.
Q20
V DTL BUFF
TP2
OH G
1H G
Q44
BUFF
Q14
Q39~Q42
BUFF
L10, C27
Q15, Q16
L11, C31
H DTL GEN.
Q17
H DTL BUFF
RV6
RESOLUTION
ADJ
RV3
H/V
RATIO
IC2
1
DTL AMP
4
Q22
BUFF
Q23
BLKG CLEAN
14
DTL AMP
CRISPENING
6
7
11
TP3
RV5
DTL
LEVEL
S1
DTL
OFF
ON
Q24
DTL BUFF
TP4
2-1
DETAIL
PR
2-1
PR
2-2
R γ VIDEO
2-2
Q13
R BUFF
Q28
CLAMP
Q37, Q38
R VIDEO WHITE CLIP
PR
1-4
HD
1-4
IC3
2
HD INV
4
Q25
BUFF
Q27
BUFF
⎍
PR
1-6
+18dB CONT
1-6
Q21
+18dB CRISP CONT AMP
RV4
CRISPENING

IE-23 BLOCK
DXC-325 (J, UC)
DXC-325P (EK)


AT 2-14 R GAIN CONT 3-B15
AT 2-28 +9dB CONT 3-A16
MB IC2-2
AT 2-27 +18dB CONT 3-A17
IE 1-6 +18dB CONT 1-6
PA (R) 3-2 R CDS VIDEO 3-B19
AT 2-16 R DARK 3-A15
AT 2-17 G DARK 3-A14
AT 2-13 B DARK 3-A13
IE 1-4 HD 1-4
ES 2-B21 BC 9-2 HD 3-A21
ES 2-B23 CLP1 3-B23
IE 1-5 CLP1 1-5
PA (G) 3-2 G CDS VIDEO 3-B20
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PA (B) 3-2 B CDS VIDEO 3-B21
BC 9-4 ES 2-B23 BC 9-1 AT 1-6 PRE BLKG 3-B25 VD 3-A23
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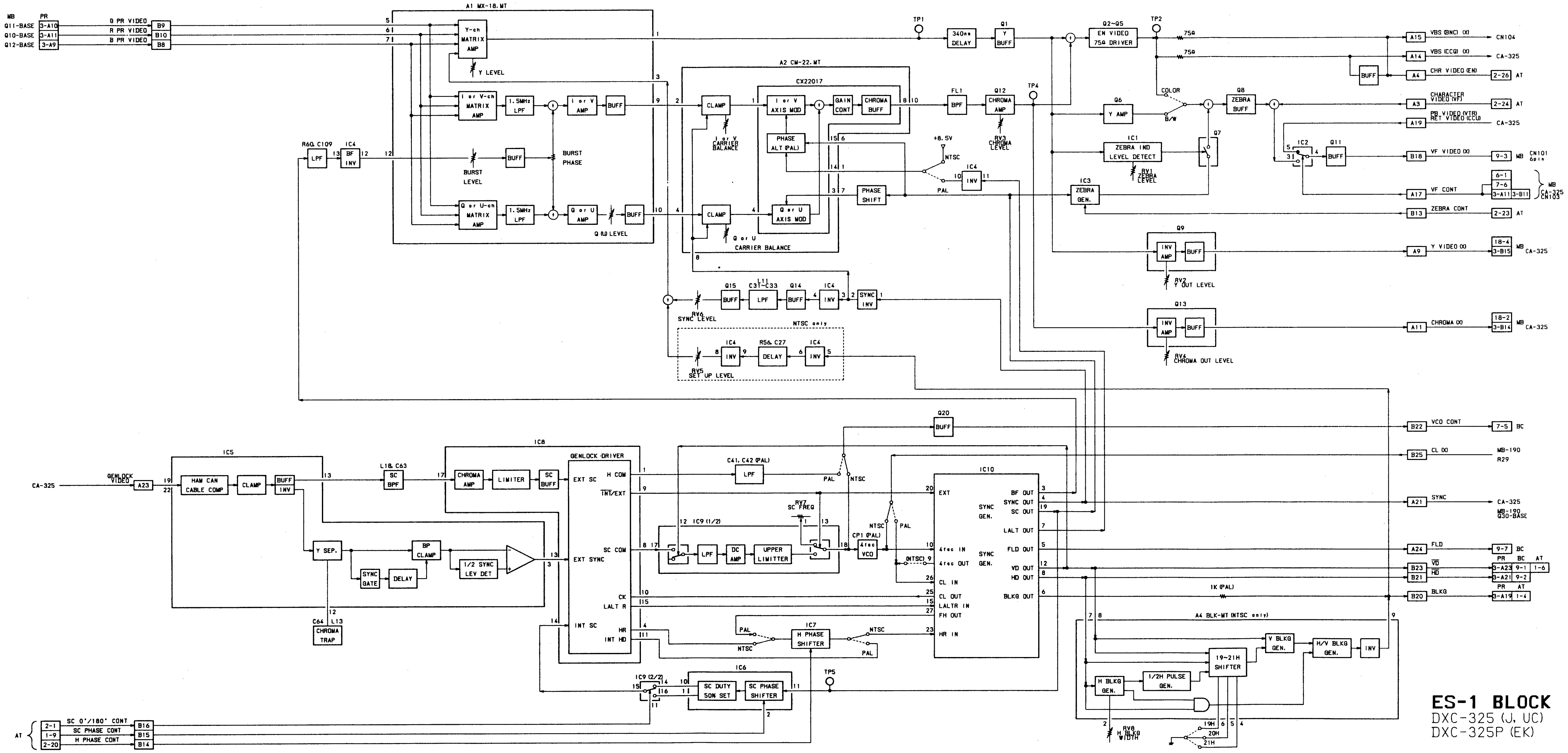
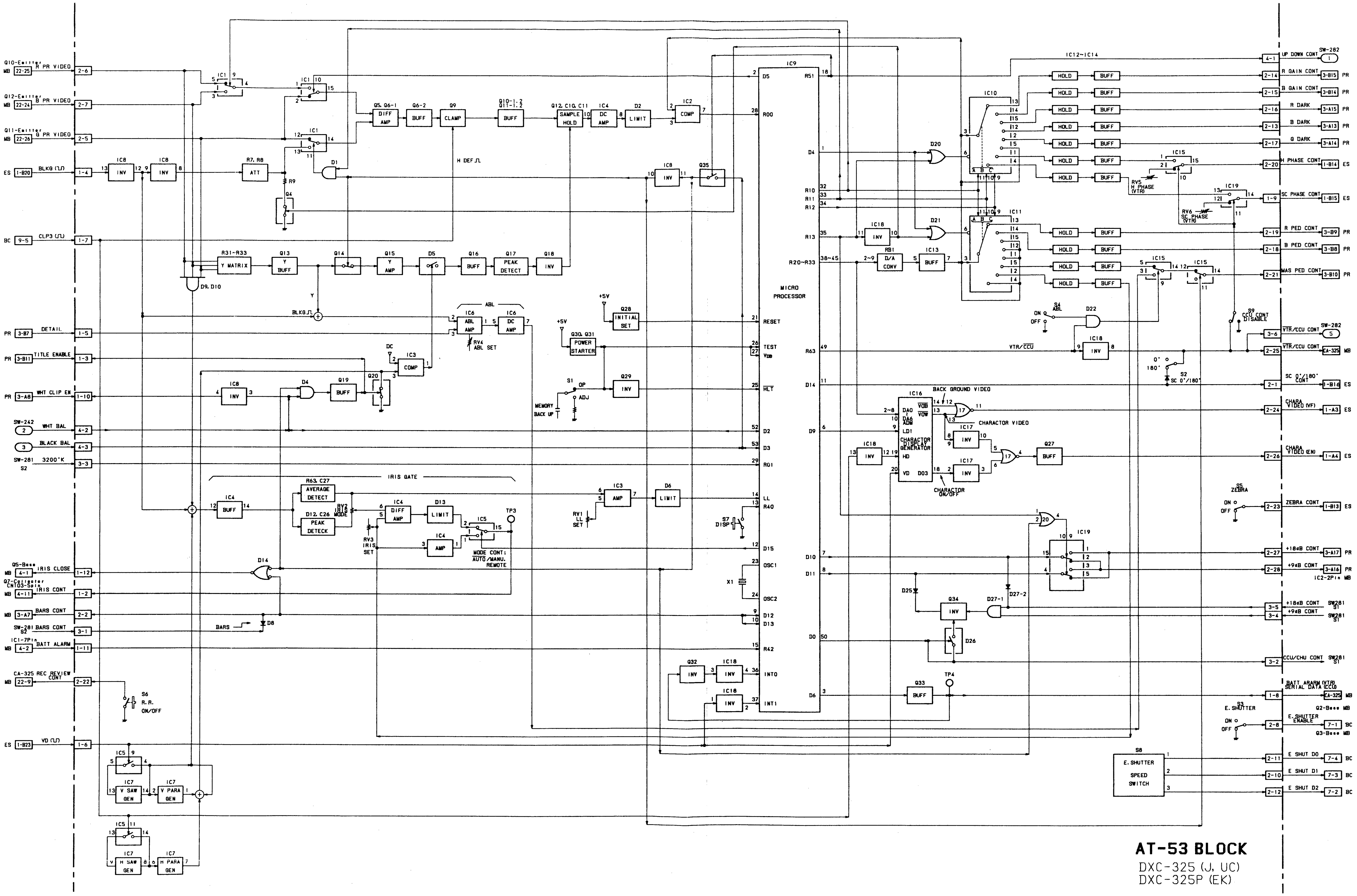
AT 1-3 TITLE ENABLE 1-B11
AT 2-2 BARS CONT 3-A7
ES 2-B20 AT 1-4 BLKG 3-A19
TITLE 102-4 B CHR VIDEO 1-B3
TITLE 102-3 G CHR VIDEO 1-B4
TITLE 102-2 R CHR VIDEO 1-B5
Q7 INV Q8 BUFF IC6 AMP Q26 INV Q9 BUFF
Q19 R BUFF Q20 BUFF Q22 G BUFF Q23 BUFF Q24 B BUFF Q25 BUFF
RV3 R LEVEL RV4 G LEVEL RV5 B LEVEL
IC18 RV6 R BLACK TRACKING RV7 G BLACK TRACKING RV8 B BLACK TRACKING
D9 AND IC13 INV Q21 DC SET Q16 BUFF Q17 BUFF Q6 BUFF
TP3 TP7 TP11 TP4 TP12 TP5 TP9 TP13
RV12 R GAIN RV13 B GAIN
VA-70 (R-ch) BOARD A1 VA-70 (G-ch) BOARD A3 VA-70 (B-ch) BOARD A5
GAIN UP AMP PRE BLKG GAIN CONT PRE KNEE CLAMP
PR-109 (R-ch) BOARD A2 PR-109 (G-ch) BOARD A4 PR-109 (B-ch) BOARD A6
GAMMA CORRECT DC SHIFT DL1 DELAY DL2 DELAY DL3 DELAY VIDEO AMP WHITE CLIP BLKG CLEAN BLACK CLIP & CAM/BAR SW CLAMP BUFF
RV14 R PED RV15 G PED RV16 B PED
RV10 R WHT CLIP RV11 B WHT CLIP RV9 MASTER WHT CLP
Q13 WHT CLIP LEVEL SET 3-A8 WHT CLIP EN 1-10 AT
3-A11 R PR VIDEO 2-B10 ES Q10-8 MB
3-B7 DETAIL 1-5 AT
2-1 DETAIL 2-1 IE
2-2 R Y BIDEO 2-2 IE
3-B9 R PED CONT 2-19 AT
3-A30 G PR VIDEO 2-B9 ES Q11-5 MB
2-4 G IE VIDEO 2-4 IE
2-3 G Y VIDEO 2-3 IE
3-B10 MASTER PED CONT 2-21 AT
3-A9 B PR VIDEO 2-B8 Q12-8
3-B8 B PED CONT 2-18 AT
3-A25 CL (X) IC3-3 MB
1-1 CL (X) 1-1 IE
Q33 BUFF Q15 BUFF Q34 BUFF Q14 BUFF Q18 BUFF Q32 BUFF Q31 DC SET
Q12 BUFF Q11 BUFF Q10 BUFF
Q4 INV Q5 INV Q3 INV Q2 INV Q1 INV
IC1 (2/2) MULTI VIBRATOR IC1 (1/2) BLKG INV IC2 COLOR BAR GEN.
+5V D1 D2 OR NTSC PAL
RV2 COLOR BAR LEVEL
B BAR G BAR R BAR

PR-111 BLOCK
DXC-325 (J, UC)
DXC-325P (EK)


MB
PR
Q11-BASE
Q10-BASE
Q12-BASE
3-A10
3-A11
3-A9
G PR VIDEO
R PR VIDEO
B PR VIDEO
B9
B10
B8
A1 MX-18.MT
Y-ch MATRIX AMP
Y LEVEL
I or V-ch MATRIX AMP
1.5MHz LPF
I or V AMP
BUFF
BURST LEVEL
BURST PHASE
Q or U-ch MATRIX AMP
Q or U AMP
Q (U) LEVEL
R60, C109
LPF
IC4
BF INV
A2 CM-22.MT
CX22017
CLAMP
I or V AXIS MOD
GAIN CONT
CHROMA BUFF
I or V CARRIER BALANCE
PHASE ALT (PAL)
Q or U AXIS MOD
Q or U CARRIER BALANCE
PHASE SHIFT
+8.5V
NTSC
PAL
INV
TP1
340ns DELAY
Q1
Y BUFF
FL1
BPF
Q12
CHROMA AMP
RV3 CHROMA LEVEL
TP4
Q2~Q5
EN VIDEO 75Ω DRIVER
TP2
75Ω
COLOR
B/W
Q6
Y AMP
IC1
ZEBRA IND LEVEL DETECT
RV1 ZEBRA LEVEL
Q7
Q8
ZEBRA BUFF
IC3
ZEBRA GEN.
IC2
Q11
Q9
INV AMP
RV2 Y OUT LEVEL
Q13
RV4 CHROMA OUT LEVEL
Q15
L11 C31~C33
Q14
SYNC INV
RV6 SYNC LEVEL
NTSC only
R56, C27
DELAY
RV5 SET UP LEVEL
A15
VBS (BNC) (X)
CN104
A14
VBS (CCQ) (X)
CA-325
A4
CHR VIDEO (EN)
2-26
AT
A3
CHARACTER VIDEO (VF)
2-24
A19
PB VIDEO (VTR)
RET VIDEO (CCU)
B18
VF VIDEO (X)
9-3
CN101 6pin
6-1
7-6
3-A11
3-B11
A17
VF CONT
MB
CA-325
CN103
B13
ZEBRA CONT
2-23
A9
Y VIDEO (X)
18-4
3-B15
A11
CHROMA (X)
18-2
3-B14
Q20
B22
VCO CONT
7-5
BC
B25
CL (X)
MB-190
R29
A21
SYNC
MB-190
Q30-BASE
A24
FLD
9-7
B23
VD
HD
B21
3-A23
9-1
1-6
3-A21
9-2
1K (PAL)
B20
BLKG
3-A19
1-4
GENLOCK VIDEO
A23
IC5
HAM CAN CABLE COMP
BUFF INV
Y SEP.
SYNC GATE
BP CLAMP
1/2 SYNC LEV DET
C64 L13
CHROMA TRAP
L18, C63
SC BPF
IC8
GENLOCK-DRIVER
CHROMA AMP
LIMITER
SC BUFF
EXT SC
H COM
INT/EXT
SC COM
EXT SYNC
CK
LALT R
INT SC
HR
INT HD
C41, C42 (PAL)
RV7 SC FREQ
IC9 (1/2)
DC AMP
UPPER LIMITTER
CP1 (PAL)
4fsc VCO
(NTSC)
IC10
EXT
SYNC GEN.
BF OUT
SYNC OUT
SC OUT
LALT OUT
4fsc IN
4fsc OUT
FLD OUT
VD OUT
HD OUT
CL IN
CL OUT
LALTR IN
FH OUT
HR IN
BLKG OUT
IC7
H PHASE SHIFTER
IC6
IC9 (2/2)
SC DUTY 50% SET
SC PHASE SHIFTER
TP5
2-1
1-9
2-20
SC 0°/180° CONT
SC PHASE CONT
H PHASE CONT
B16
B15
B14
A4 BLK-MT (NTSC only)
V BLKG GEN.
H/V BLKG GEN.
19~21H SHIFTER
H BLKG GEN.
1/2H PULSE GEN.
RV8 H BLKG WIDTH
19H
20H
21H

ES-1 BLOCK
DXC-325 (J, UC)
DXC-325P (EK)


Q10-Emitter R PR VIDEO
Q12-Emitter B PR VIDEO
Q11-Emitter G PR VIDEO
BLKG
CLP3
DETAIL
TITLE ENABLE
WHT CLIP EN
WHT BAL
BLACK BAL
3200°K
IRIS CLOSE
IRIS CONT
BARS CONT
BATT ALARM
CA-325 REC REVIEW CONT
VD
IC1
IC8
INV
ATT
DIFF AMP
BUFF
CLAMP
H DEF
SAMPLE HOLD
DC AMP
LIMIT
COMP
Y MATRIX
Y BUFF
Y AMP
PEAK DETECT
ABL
ABL AMP
RV4 ABL SET
AVERAGE DETECT
PEAK DETECK
IRIS GATE
RV2 IRIS MODE
RV3 IRIS SET
MODE CONT: AUTO/MANU. REMOTE
V SAW GEN
V PARA GEN
H SAW GEN
H PARA GEN
S6 R.R. ON/OFF
INITIAL SET
POWER STARTER
MEMORY BACK UP
IC9
MICRO PROCESSOR
RESET
TEST
HLT
OSC1
OSC2
INT0
INT1
RV1 LL SET
S7 DISP
X1
D/A CONV
IC12~IC14
HOLD
RV5 H PHASE (VTR)
RV6 SC PHASE (VTR)
IC16
CHARACTOR DISPLAY GENERATOR
BACK GROUND VIDEO
CHARACTOR VIDEO
CHARACTOR ON/OFF
S4 ABL
S2 SC 0°/180°
S5 ZEBRA
S3 E.SHUTTER
S8 E.SHUTTER SPEED SWITCH
UP DOWN CONT
R GAIN CONT
B GAIN CONT
R DARK
B DARK
G DARK
H PHASE CONT
SC PHASE CONT
R PED CONT
B PED CONT
MAS PED CONT
VTR/CCU CONT
SC 0°/180° CONT
CHARA VIDEO (VF)
CHARA VIDEO (EN)
ZEBRA CONT
+18dB CONT
+9dB CONT
CCU/CHU CONT
BATT ARARM(VTR) SERIAL DATA (CCU)
E.SHUTTER ENABLE
E SHUT D0
E SHUT D1
E SHUT D2

AT-53 BLOCK

DXC-325 (J, UC)
DXC-325P (EK)

SECTION B
SEMICONDUCTOR

The circuit diagram of is obtained from the IC data book published by the manufacturer.

TYPE PAGE

1S2835.......B-2
1S2837.......B-2
1S955........B-2

1SS119.......B-2
1SS123.......B-2

2SA1226......B-2
2SA1462......B-2
2SA812.......B-2

2SB798.......B-2

2SC1623......B-2
2SC2757......B-2

2SD999.......B-2

2SK94........B-2

3SK163.......B-2

BX1340.......B-3

CX22017......B-3
CX7930A......B-3
CX815........B-5

CXA1065M.....B-5

CXD1155Q.....B-6
CXD1251Q.....B-9

DTA114YK.....B-2

DTC114YK.....B-2

HD44860B42...B-9

HZ?ALL.......B-2
HZ?BLL.......B-2

MA122........B-2
MA123........B-2

MB7114LPF....B-10

MC14557BF....B-10

MN1237AD.....B-10
MN3801.......B-11

TYPE PAGE

NJM1496M.....B-11
NJM2903M.....B-11

NTM2369......B-2

RD??M-B?.....B-2

SN74LS221NS..B-11

TC4001BF.....B-11
TC4051BF.....B-11
TC4053BF.....B-11
TC4069UBF....B-11

TC40H000F....B-12
TC40H008F....B-12
TC40H027F....B-12
TC40H032F....B-12
TC40H076AF...B-12
TC40H193F....B-12

TC4S01F......B-12
TC4S11F......B-13
TC4S71F......B-13
TC4S81F......B-13
TC4SU69F.....B-13

TC74HC04F....B-13
TC74HC08F....B-13
TC74HC14F....B-13
TC74HC27F....B-13
TC74HC74F....B-13

TL062ACPS....B-14
TL064CNS.....B-14
TL082CPS.....B-14

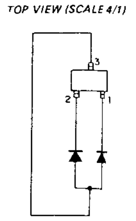
μA711CNS.....B-14

μPC311G2.....B-14
μPC324G2.....B-14
μPC358G2.....B-14

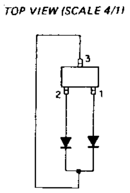
μPD4053BG....B-11

XN4608.......B-2
XN6401.......B-2
XN6435.......B-2
XN6501.......B-2

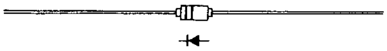
DIODE, TRANSISTOR


TOP VIEW (SCALE 4/1)
3
2
1

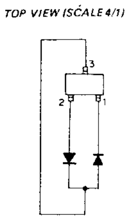
1S2835


TOP VIEW (SCALE 4/1)
3
2
1

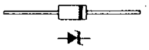
1S2837



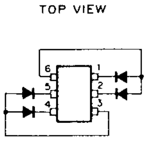
1S955


TOP VIEW (SCALE 4/1)
3
2
1

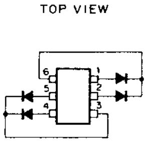
1SS123



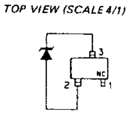
HZ ?ALL
HZ ?BLL


TOP VIEW
6
5
4
1
2
3

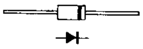
MA122


TOP VIEW
6
5
4
1
2
3

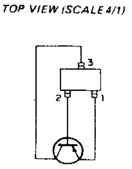
MA123


TOP VIEW (SCALE 4/1)
3
NC
2
1

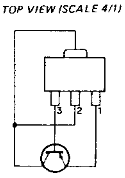
RD ? ?MB ?



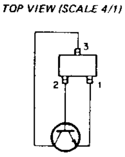
1SS119


TOP VIEW (SCALE 4/1)
3
2
1

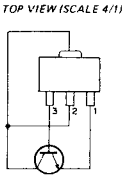
2SA1226
2SA1462
2SA812


TOP VIEW (SCALE 4/1)
3
2
1

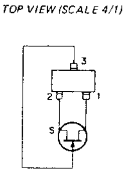
2SB798


TOP VIEW (SCALE 4/1)
3
2
1

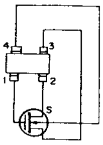
2SC1623
2SC2757
NTM2369


TOP VIEW (SCALE 4/1)
3
2
1

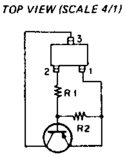
2SD999


TOP VIEW (SCALE 4/1)
3
2
1
S

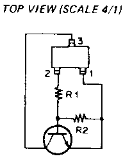
2SK94



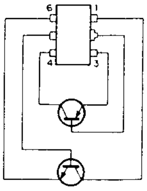
3SK163


TOP VIEW (SCALE 4/1)
3
2
1
R1
R2

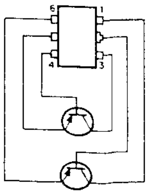
DTC114YK (R1 = 10K, R2 = 47K)


TOP VIEW (SCALE 4/1)
3
2
1
R1
R2

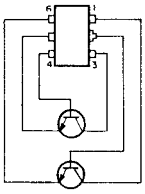
DTA114YK (R1 = 10K, R2 = 47K)



XN4608



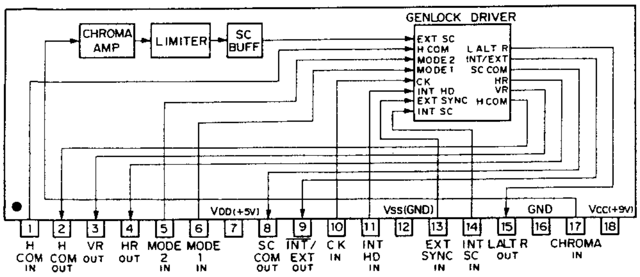
XN6401
XN6435



XN6501

BX1340 (SONY)

SC LIMITER AND GENLOCK DRIVER
- REAR VIEW -


CHROMA AMP
LIMITER
SC BUFF
GENLOCK DRIVER
EXT SC
H COM
MODE 2
MODE 1
CK
INT HD
EXT SYNC
INT SC
LALT R
INT/EXT
SC COM
HR
VR
H COM
VDD(+5V)
VSS(GND)
GND
VCC(+9V)
1 H COM IN
2 H COM OUT
3 VR OUT
4 HR OUT
5 MODE 2 IN
6 MODE 1 IN
7
8 SC COM OUT
9 INT/ EXT OUT
10 CK IN
11 INT HD IN
12
13 EXT SYNC IN
14 INT SC IN
15 LALT R OUT
16
17 CHROMA IN
18

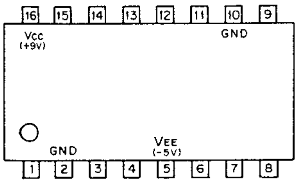
MODE SELECTION

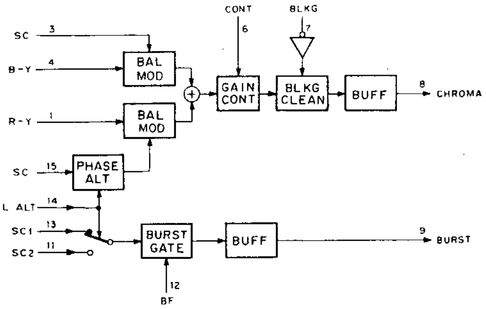
MODE 1	MODE 2	MODE
1	1	NTSC
0	0	PAL

0 ; LOW LEVEL
1 ; HIGH LEVEL

CX22017 (SONY)

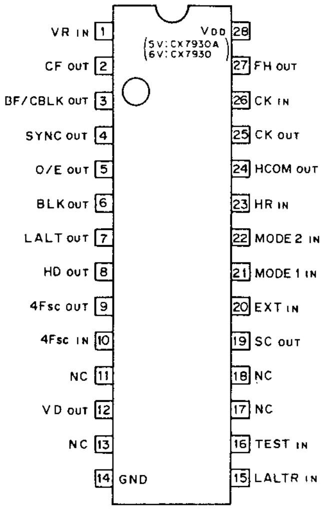
VIDEO SIGNAL PROCESSOR
- TOP VIEW -

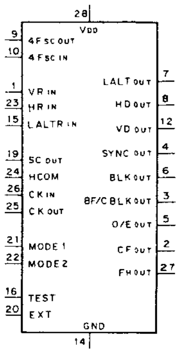

16
15
14
13
12
11
10
9
VCC (+9V)
GND
GND
VEE (-5V)
1
2
3
4
5
6
7
8


SC 3
B-Y 4
R-Y 1
SC 15
L ALT 14
SC1 13
SC2 11
BAL MOD
BAL MOD
PHASE ALT
CONT 6
BLKG 7
GAIN CONT
BLKG CLEAN
BUFF
8 CHROMA
BURST GATE
BUFF
9 BURST
12 BF

CX7930A (SONY) FLAT PACKAGE

C-MOS SYNC GENERATOR (NTSC, PAL-M, PAL, SECAM)
- TOP VIEW -


VR IN 1
CF OUT 2
BF/CBLK OUT 3
SYNC OUT 4
O/E OUT 5
BLK OUT 6
LALT OUT 7
HD OUT 8
4Fsc OUT 9
4Fsc IN 10
NC 11
VD OUT 12
NC 13
14 GND
28 VDD
(5V: CX7930A
6V: CX7930)
27 FH OUT
26 CK IN
25 CK OUT
24 HCOM OUT
23 HR IN
22 MODE 2 IN
21 MODE 1 IN
20 EXT IN
19 SC OUT
18 NC
17 NC
16 TEST IN
15 LALTR IN


28 VDD
9 4Fsc OUT
10 4Fsc IN
1 VR IN
23 HR IN
15 LALTR IN
19 SC OUT
24 HCOM
26 CK IN
25 CK OUT
21 MODE 1
22 MODE 2
16 TEST
20 EXT
14 GND
LALT OUT 7
HD OUT 8
VD OUT 12
SYNC OUT 4
BLK OUT 6
BF/CBLK OUT 3
O/E OUT 5
CF OUT 2
FH OUT 27

O/E : ODD/EVEN FIELD
CF : COLOR FRAME PULSE
HCOM : H COMPARATOR

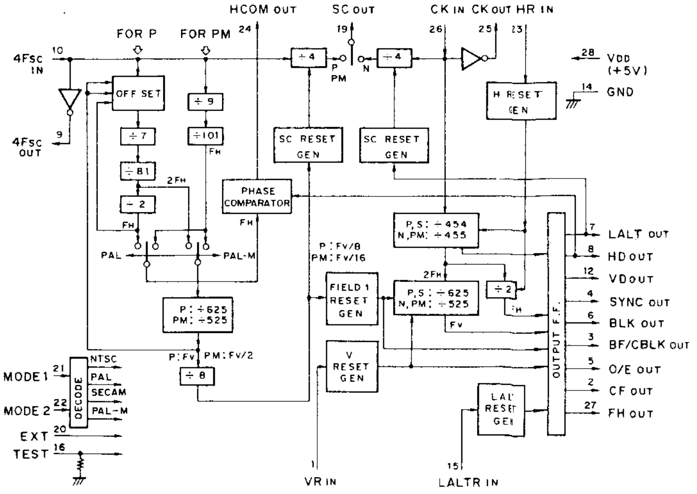
SYSTEM	4Fsc	CLOCK
NTSC	910 FH	910 FH
PAL	1135 FH+2FV	908 FH
PALM	909 FH	910 FH
SECAM	———	908 FH

INPUTS		SYSTEM
MODE 1	MODE 2	
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

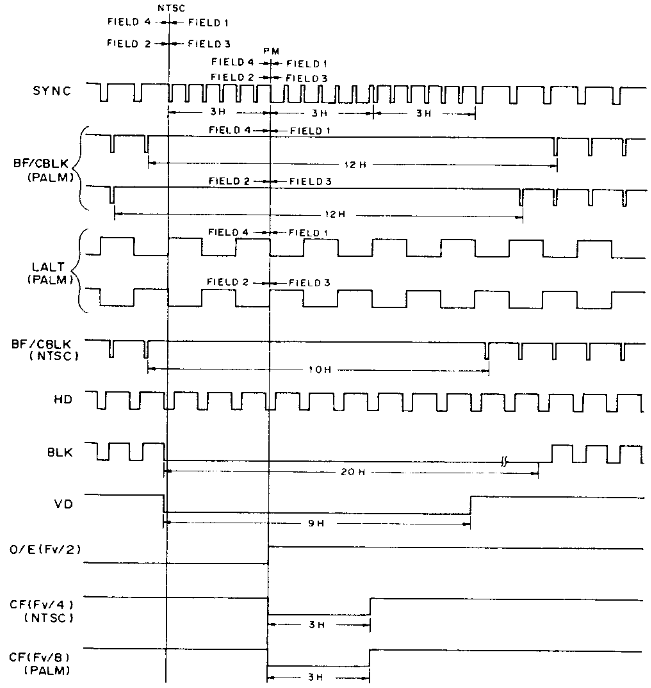
0 ; LOW LEVEL (GND)

INPUTS		FUNCTION
EXT	TEST	
0	0	INTERNAL
0	1	INVALID
1	0	EXT
1	1	TEST

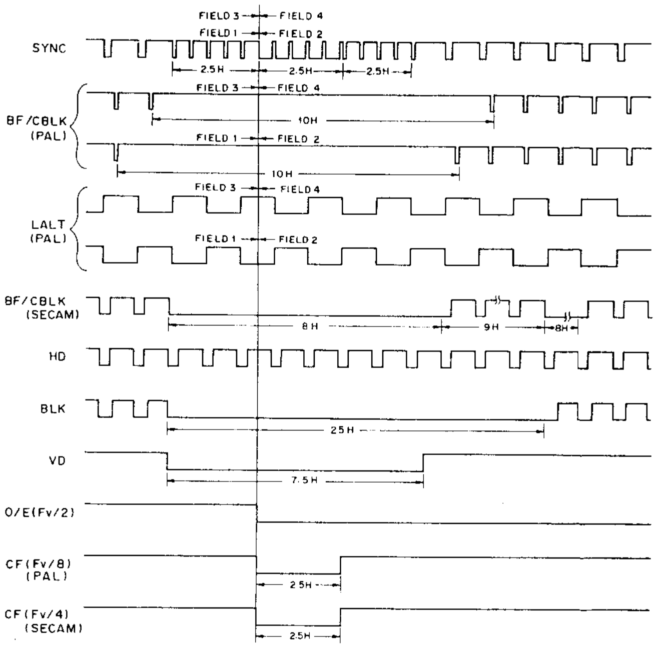
TEST "O": OPEN


HCOM OUT
SC OUT
CK IN
CK OUT
HR IN
FOR P
FOR PM
24
19
26
25
23
10 4Fsc IN
9 4Fsc OUT
OFF SET
÷ 7
÷ 81
÷ 2
2FH
FH
÷ 9
÷ 101
FH
÷ 4
P PM
N
÷ 4
SC RESET GEN
SC RESET GEN
H RESET GEN
28 VDD (+5V)
14 GND
PHASE COMPARATOR
FH
PAL
PAL-M
P : ÷625
PM : ÷525
P : FV
PM : FV/2
÷ 8
P : FV/8
PM : FV/16
FIELD 1 RESET GEN
V RESET GEN
P, S : ÷454
N, PM : ÷455
2FH
P, S : ÷625
N, PM : ÷525
FV
÷ 2
FH
LALT RESET GEN
OUTPUT F.F.
MODE 1 21
MODE 2 22
DECODE
NTSC
PAL
SECAM
PAL-M
EXT 20
TEST 16
1 VR IN
15 LALTR IN
7 LALT OUT
8 HD OUT
12 VD OUT
4 SYNC OUT
6 BLK OUT
3 BF/CBLK OUT
5 O/E OUT
2 CF OUT
27 FH OUT

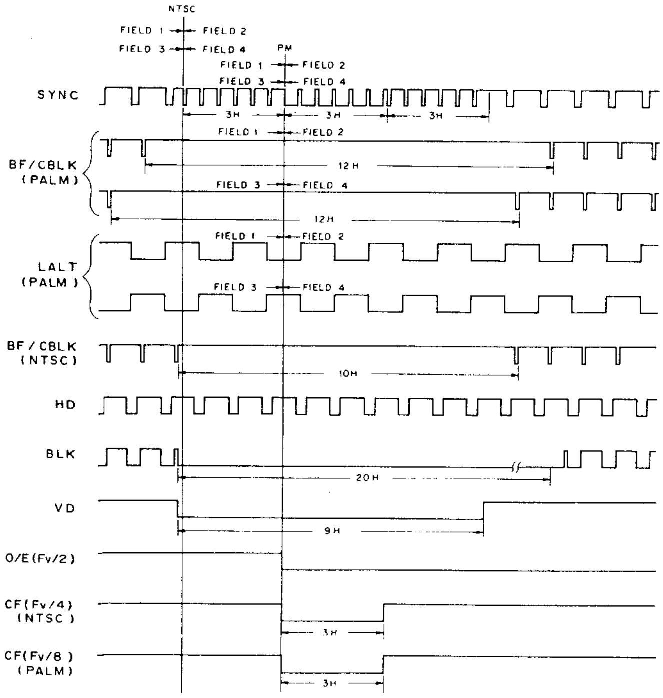
NTSC, PAL-M (FIELD 1,3)


NTSC
FIELD 4 → FIELD 1
FIELD 2 → FIELD 3
PM
FIELD 4 → FIELD 1
FIELD 2 → FIELD 3
SYNC
3H
3H
3H
FIELD 4 → FIELD 1
BF/CBLK (PALM)
12 H
FIELD 2 → FIELD 3
12H
FIELD 4 → FIELD 1
LALT (PALM)
FIELD 2 → FIELD 3
BF/CBLK (NTSC)
10 H
HD
BLK
20 H
VD
9H
O/E(Fv/2)
CF(Fv/4) (NTSC)
3H
CF(Fv/8) (PALM)
3H

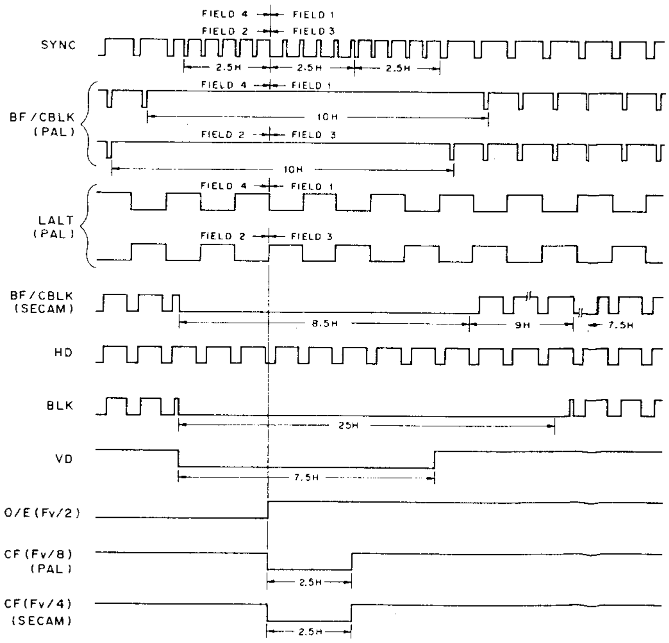
PAL, SECAM (FIELD 4,2)

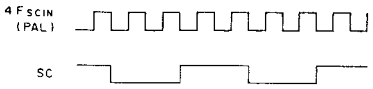

FIELD 3 → FIELD 4
FIELD 1 → FIELD 2
SYNC
2.5H
2.5H
2.5H
FIELD 3 → FIELD 4
BF/CBLK (PAL)
10H
FIELD 1 → FIELD 2
10 H
FIELD 3 → FIELD 4
LALT (PAL)
FIELD 1 → FIELD 2
BF/CBLK (SECAM)
8 H
9H
8H
HD
BLK
25H
VD
7.5H
O/E(Fv/2)
CF(Fv/8) (PAL)
2.5H
CF(Fv/4) (SECAM)
2.5H

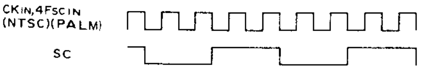
NTSC, PAL-M (FIELD 2,4)


NTSC
FIELD 1 → FIELD 2
FIELD 3 → FIELD 4
PM
FIELD 1 → FIELD 2
FIELD 3 → FIELD 4
SYNC
3H
3H
3H
FIELD 1 → FIELD 2
BF/CBLK (PALM)
12 H
FIELD 3 → FIELD 4
12H
FIELD 1 → FIELD 2
LALT (PALM)
FIELD 3 → FIELD 4
BF/CBLK (NTSC)
10H
HD
BLK
20H
VD
9H
O/E(Fv/2)
CF(Fv/4) (NTSC)
3H
CF(Fv/8) (PALM)
3H

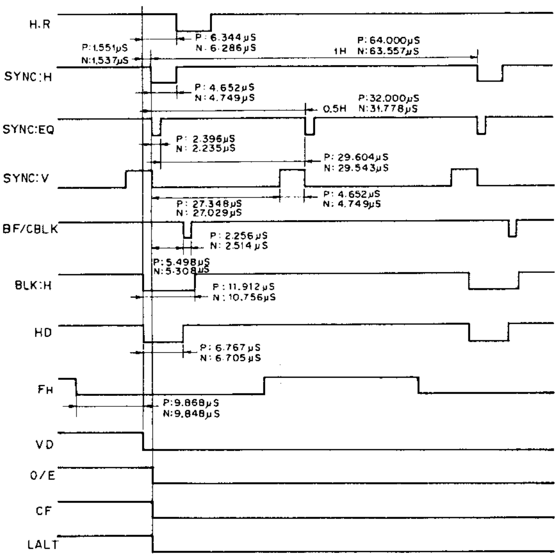
PAL, SECAM (FIELD 1,3)


FIELD 4 → FIELD 1
FIELD 2 → FIELD 3
SYNC
2.5H
2.5H
2.5H
FIELD 4 → FIELD 1
BF/CBLK (PAL)
10H
FIELD 2 → FIELD 3
10H
FIELD 4 → FIELD 1
LALT (PAL)
FIELD 2 → FIELD 3
BF/CBLK (SECAM)
8.5H
9H
7.5H
HD
BLK
25H
VD
7.5H
O/E(Fv/2)
CF(Fv/8) (PAL)
2.5H
CF(Fv/4) (SECAM)
2.5H


4FSCIN (PAL)
SC

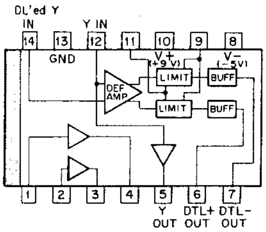

CKIN,4FSCIN (NTSC)(PALM)
SC

P:PAL, SECAM
N:NTSC, PALM


H.R
P:6.344μS N:6.286μS
P:1.551μS N:1.537μS
P:64.000μS 1H N:63.557μS
SYNC:H
P:4.652μS N:4.749μS
P:32.000μS 0.5H N:31.778μS
SYNC:EQ
P:2.396μS N:2.235μS
P:29.604μS N:29.543μS
SYNC:V
P:27.348μS N:27.029μS
P:4.652μS N:4.749μS
BF/CBLK
P:2.256μS N:2.514μS
P:5.498μS N:5.308μS
BLK:H
P:11.912μS N:10.756μS
HD
P:6.767μS N:6.705μS
FH
P:9.868μS N:9.848μS
VD
O/E
CF
LALT

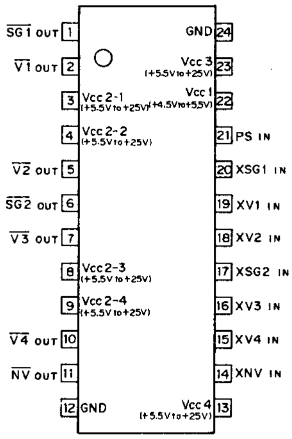
CX815 (SONY)

DTL AMPLIFIER
- TOP VIEW -

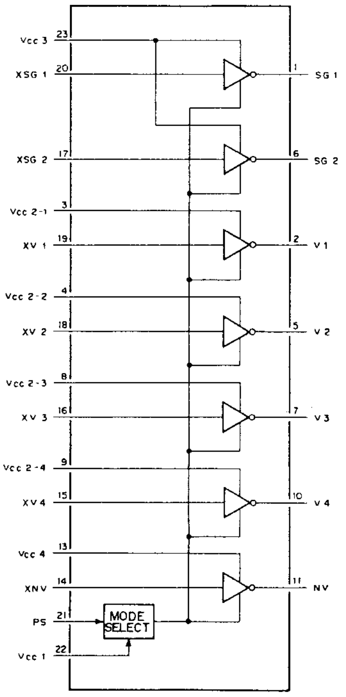

DL'ed Y IN
Y IN
14
13
12
11
10
9
8
GND
V+ (+9V)
V− (−5V)
DEF AMP
LIMIT
BUFF
LIMIT
BUFF
1
2
3
4
5
6
7
Y OUT
DTL+ OUT
DTL− OUT

CXA1065M (SONY) FLAT PACKAGE

INVERTING DRIVER FOR CCD CLOCK WITH POWER SAVE
- TOP VIEW -

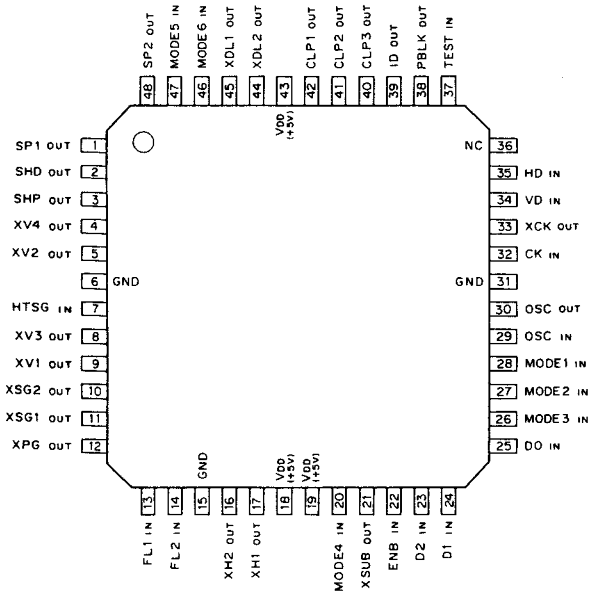

$\overline{SG1}$ OUT 1
$\overline{V1}$ OUT 2
3 Vcc 2-1 (+5.5V to +25V)
4 Vcc 2-2 (+5.5V to +25V)
$\overline{V2}$ OUT 5
$\overline{SG2}$ OUT 6
$\overline{V3}$ OUT 7
8 Vcc 2-3 (+5.5V to +25V)
9 Vcc 2-4 (+5.5V to +25V)
$\overline{V4}$ OUT 10
$\overline{NV}$ OUT 11
12 GND
GND 24
Vcc 3 (+5.5V to +25V) 23
Vcc 1 (+4.5V to +5.5V) 22
21 PS IN
20 XSG1 IN
19 XV1 IN
18 XV2 IN
17 XSG2 IN
16 XV3 IN
15 XV4 IN
14 XNV IN
Vcc 4 (+5.5V to +25V) 13

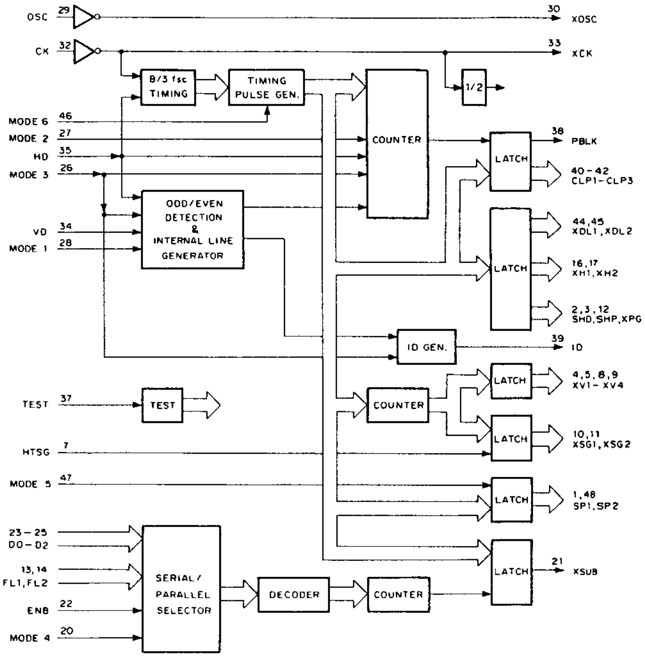
XV1-XV4 ; VERTICAL REGISTER TRANSMISSION CLOCK INPUT
$\overline{V1}$ - $\overline{V4}$; VERTICAL REGISTER TRANSMISSION CLOCK OUTPUT
XSG1, XSG2 ; SENSER GATE PULSE INPUT
$\overline{SG1}$, $\overline{SG2}$; SENSER GATE PULSE OUTPUT
XNV ; DRIVER INPUT
$\overline{NV}$; DRIVER OUTPUT
PS ; POWER SAVE INPUT
Vcc 1 ; BIAS VOLTAGE
Vcc 2-1 ; $\overline{V1}$ OUTPUT PULSE VOLTAGE
Vcc 2-2 ; $\overline{V2}$ OUTPUT PULSE VOLTAGE
Vcc 2-3 ; $\overline{V3}$ OUTPUT PULSE VOLTAGE
Vcc 2-4 ; $\overline{V4}$ OUTPUT PULSE VOLTAGE
Vcc 3 ; $\overline{SG1}$, $\overline{SG2}$ OUTPUT PULSE VOLTAGE
Vcc 4 ; $\overline{NV}$ OUTPUT PULSE VOLTAGE


Vcc 3 23
XSG 1 20
1 SG 1
XSG 2 17
6 SG 2
Vcc 2-1 3
XV 1 19
2 V 1
Vcc 2-2 4
XV 2 18
5 V 2
Vcc 2-3 8
XV 3 16
7 V 3
Vcc 2-4 9
XV 4 15
10 V 4
Vcc 4 13
XNV 14
11 NV
PS 21
MODE SELECT
Vcc 1 22

CXD1155Q (SONY) FLAT PACKAGE

C-MOS TIMING PULSE GENERATOR FOR CCD CAMERA
- TOP VIEW -


48 SP2 OUT
47 MODE5 IN
46 MODE6 IN
45 XDL1 OUT
44 XDL2 OUT
43 VDD (+5V)
42 CLP1 OUT
41 CLP2 OUT
40 CLP3 OUT
39 ID OUT
38 PBLK OUT
37 TEST IN
1 SP1 OUT
2 SHD OUT
3 SHP OUT
4 XV4 OUT
5 XV2 OUT
6 GND
7 HTSG IN
8 XV3 OUT
9 XV1 OUT
10 XSG2 OUT
11 XSG1 OUT
12 XPG OUT
36 NC
35 HD IN
34 VD IN
33 XCK OUT
32 CK IN
31 GND
30 OSC OUT
29 OSC IN
28 MODE1 IN
27 MODE2 IN
26 MODE3 IN
25 D0 IN
13 FL1 IN
14 FL2 IN
15 GND
16 XH2 OUT
17 XH1 OUT
18 VDD (+5V)
19 VDD (+5V)
20 MODE4 IN
21 XSUB OUT
22 ENB IN
23 D2 IN
24 D1 IN


OSC 29
30 XOSC
CK 32
33 XCK
8/3 fsc TIMING
TIMING PULSE GEN.
1/2
MODE 6 46
MODE 2 27
HD 35
MODE 3 26
COUNTER
LATCH
38 PBLK
40-42 CLP1-CLP3
VD 34
MODE 1 28
ODD/EVEN DETECTION & INTERNAL LINE GENERATOR
44,45 XDL1,XDL2
16,17 XH1,XH2
2,3,12 SHD,SHP,XPG
ID GEN.
39 ID
TEST 37
TEST
COUNTER
4,5,8,9 XV1-XV4
HTSG 7
10,11 XSG1,XSG2
MODE 5 47
1,48 SP1,SP2
23-25 D0-D2
13,14 FL1,FL2
ENB 22
MODE 4 20
SERIAL/PARALLEL SELECTOR
DECODER
COUNTER
21 XSUB

MODE SELECTION

	H	L
FL1	NORMAL	FLICKERLESS
FL2	50Hz	60Hz
MODE1	B/W	COLOR
MODE2	FRAME	FIELD
MODE3	CCIR	NTSC
MODE4	PARALLEL INPUT	SERIAL INPUT

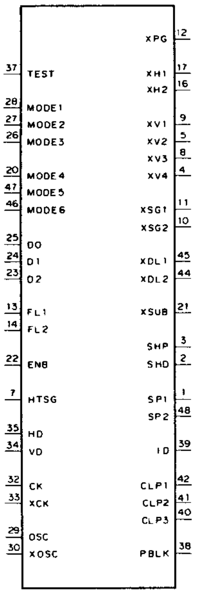
H ; VDD
L ; GND

- MODE5, MODE6 ; SEE TIMING CHART

PARALLEL INPUT MODE (MODE4="H")

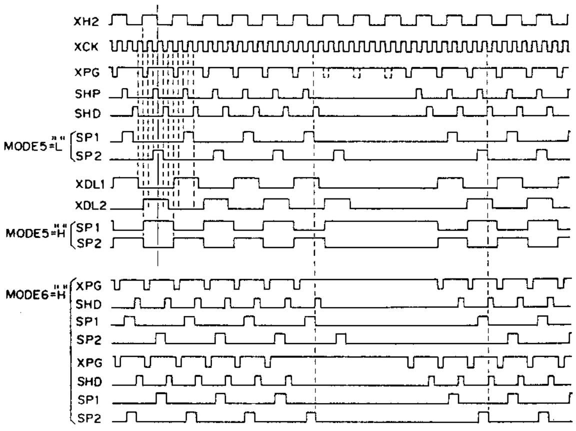
INPUTS							SHUTTER SPEED(S)
MODE4	ENB	FL1	FL2	D2	D1	D0	
1	1	1	X	0	0	0	1/60
1	1	1	X	0	0	1	1/125
1	1	1	X	0	1	0	1/250
1	1	1	X	0	1	1	1/500
1	1	1	X	1	0	0	1/1000
1	1	1	X	1	0	1	1/2000
1	1	1	X	1	1	0	1/4000
1	1	1	X	1	1	1	1/10000
X	1	0	1	X	X	X	1/100
X	1	0	0	X	X	X	1/120
X	0	X	X	X	X	X	NORMAL

1 ; HIGH LEVEL
0 ; LOW LEVEL
X ; DON'T CARE

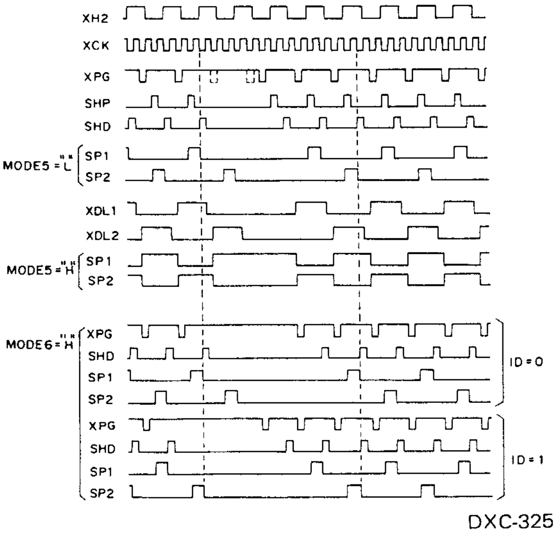

37 TEST
28 MODE1
27 MODE2
26 MODE3
20 MODE4
47 MODE5
46 MODE6
25 D0
24 D1
23 D2
13 FL1
14 FL2
22 ENB
7 HTSG
35 HD
34 VD
32 CK
33 XCK
29 OSC
30 XOSC
XPG 12
XH1 17
XH2 16
XV1 9
XV2 5
XV3 8
XV4 4
XSG1 11
XSG2 10
XDL1 45
XDL2 44
XSUB 21
SHP 3
SHD 2
SP1 1
SP2 48
ID 39
CLP1 42
CLP2 41
CLP3 40
PBLK 38

ENB ; ELECTRONIC SHUTTER ENABLE INPUT
D0-D2 ; SHUTTER SPEED MODE SIGNAL INPUT
SHD ; DATA SAMPLE HOLD PULSE
SHP ; PRE-CHARGE LEVEL SAMPLE HOLD PULSE
XV1-XV4 ; VERTICAL REGISTER TRANSMISSION CLOCK OUTPUT
XH1,XH2 ; HORIZONTAL REGISTER TRANSMISSION CLOCK OUTPUT
XSG1,XSG2 ; SENSOR GATE PULSE OUTPUT
XDL1,XDL2 ; DELAY LINE CONTROL PULSE OUTPUT
XPG ; PRE-CHARGE GATE PULSE OUTPUT
SP1,SP2 ; COLOR SEPARATION PULSE OUTPUT
CLP1-CLP3 ; CLAMP PULSE OUTPUT
ID ; LINE DISCRIMINATION PULSE OUTPUT
HTSG ; READ OUT STOP SIGNAL INPUT
TEST ; TEST MODE SIGNAL INPUT
OSC ; OSCILLATING SIGNAL INPUT
XOSC ; INVERTED OSCILATING SIGNAL OUTPUT
CK ; CLOCK INPUT
XCK ; INVERTED CLOCK OUTPUT
PBLK ; BLANKING CLEANING PULSE
XSUB ; ELECTRIC CHARGE DISCHARGING PULSE OUTPUT
HD ; HORIZONTAL DRIVE INPUT
VD ; VERTICAL DRIVE INPUT

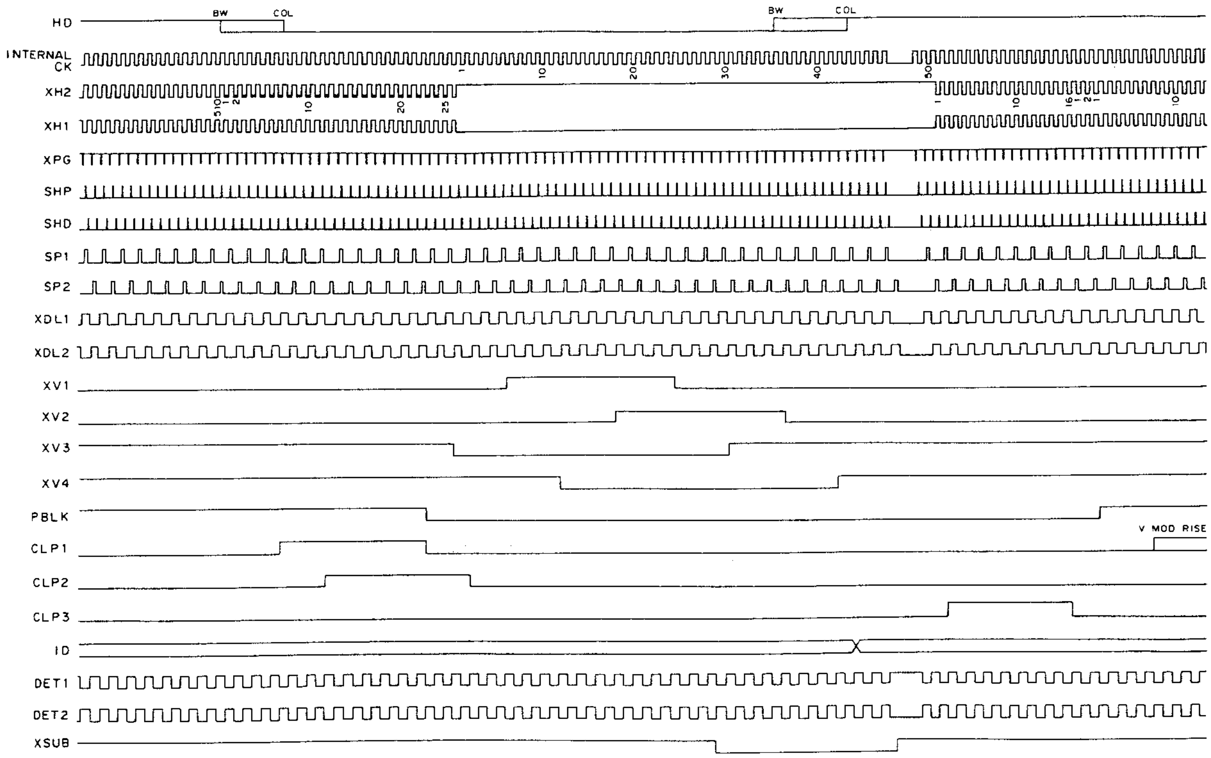
HIGH SPEED SYSTEM TIMING
NTSC



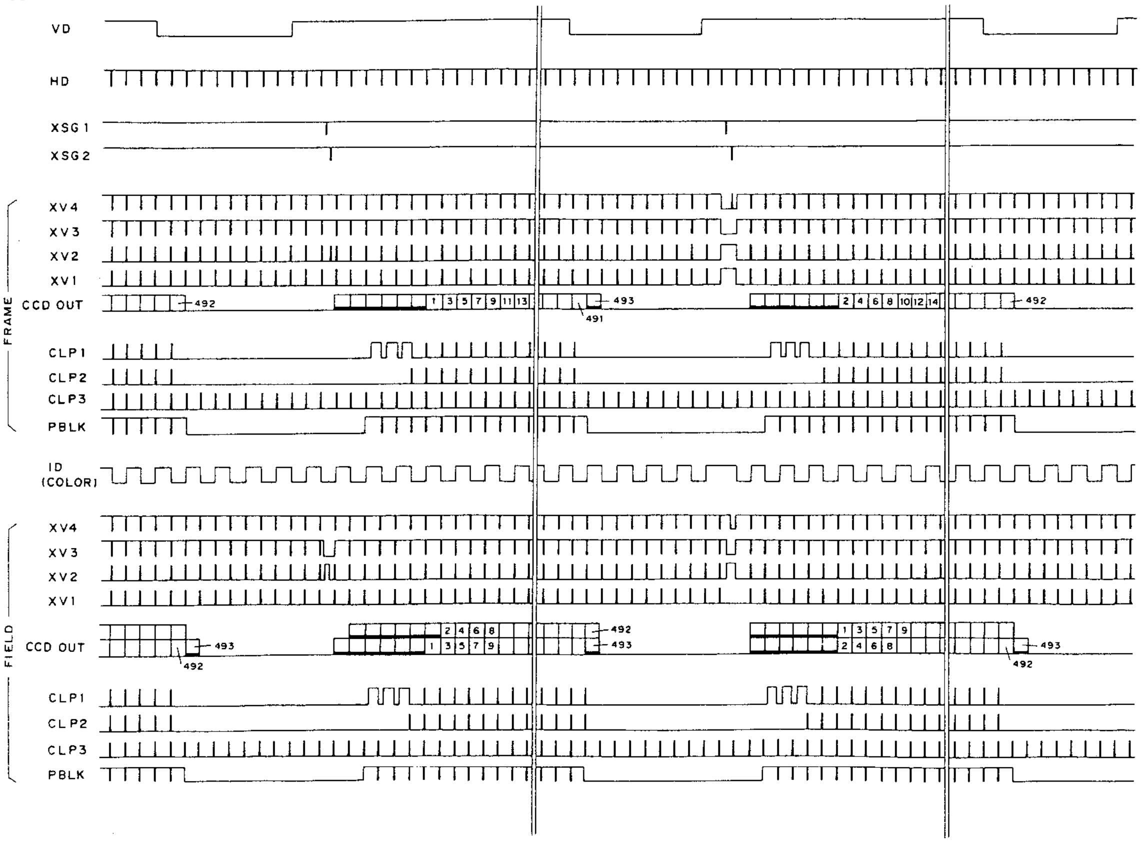
HIGH SPEED SYSTEM TIMING
CCIR



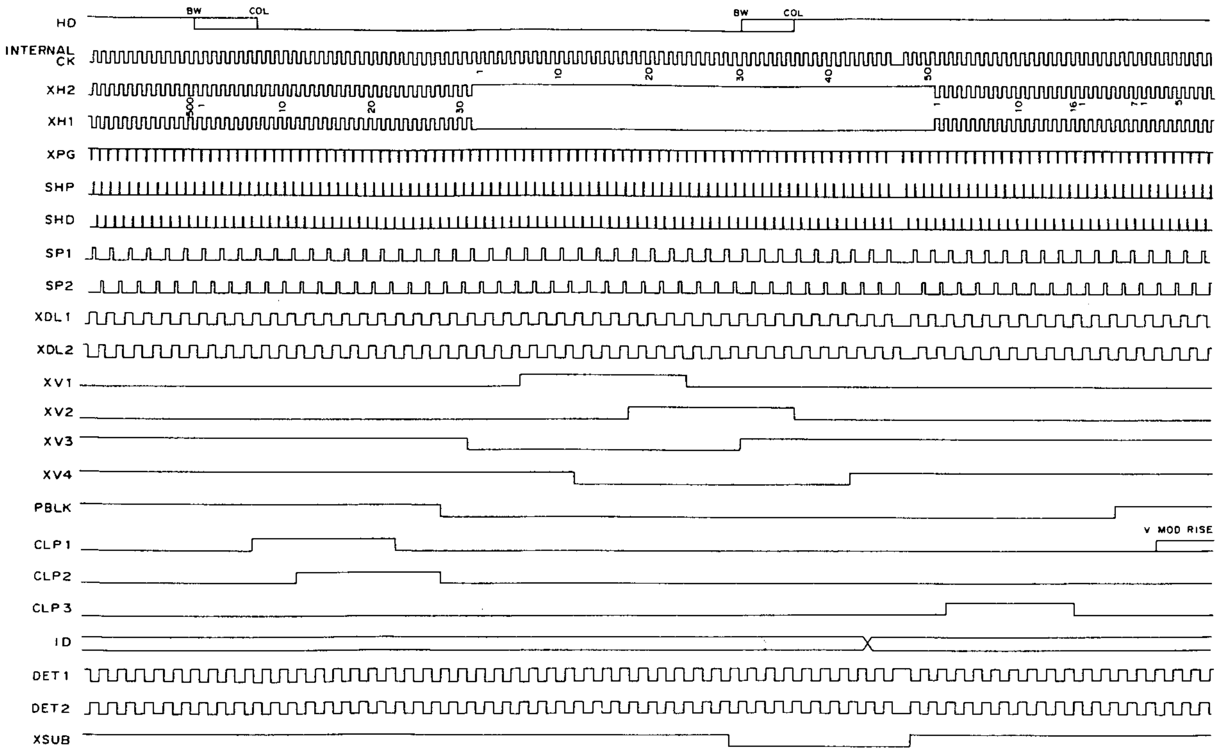
NTSC


HD
BW
COL
INTERNAL CK
XH2
XH1
XPG
SHP
SHD
SP1
SP2
XDL1
XDL2
XV1
XV2
XV3
XV4
PBLK
CLP1
CLP2
CLP3
ID
DET1
DET2
XSUB
V MOD RISE
1
10
20
30
40
50
5
10
20
25
16
10

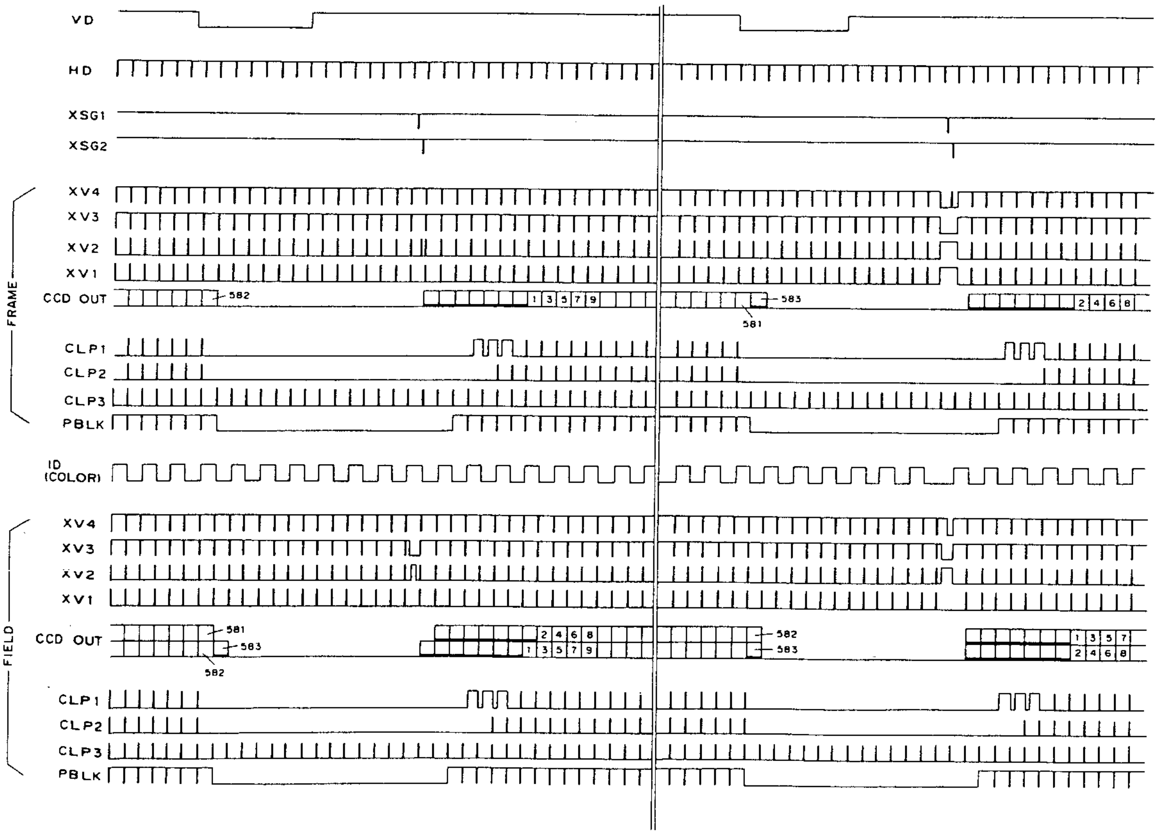
NTSC


VD
HD
XSG1
XSG2
FRAME
XV4
XV3
XV2
XV1
CCD OUT
492
493
491
1 3 5 7 9 11 13
2 4 6 8 10 12 14
CLP1
CLP2
CLP3
PBLK
ID (COLOR)
FIELD
2 4 6 8
1 3 5 7 9

CCIR

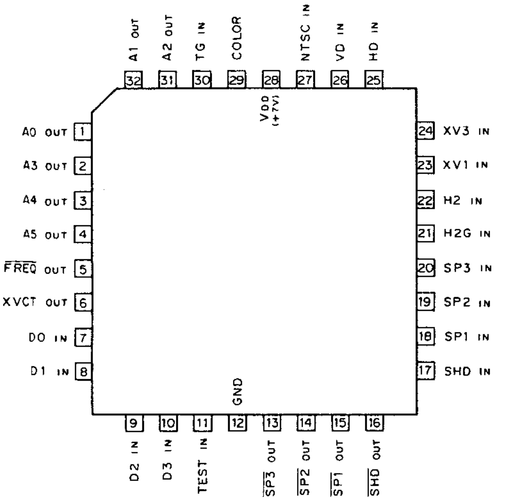

HD
BW
COL
BW
COL
INTERNAL CK
XH2
XH1
XPG
SHP
SHD
SP1
SP2
XDL1
XDL2
XV1
XV2
XV3
XV4
PBLK
CLP1
CLP2
CLP3
ID
DET1
DET2
XSUB
V MOD RISE
1
10
20
30
40
50
400
1
10
20
30
1
10
16
17
5

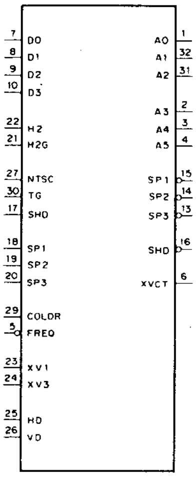
CCIR

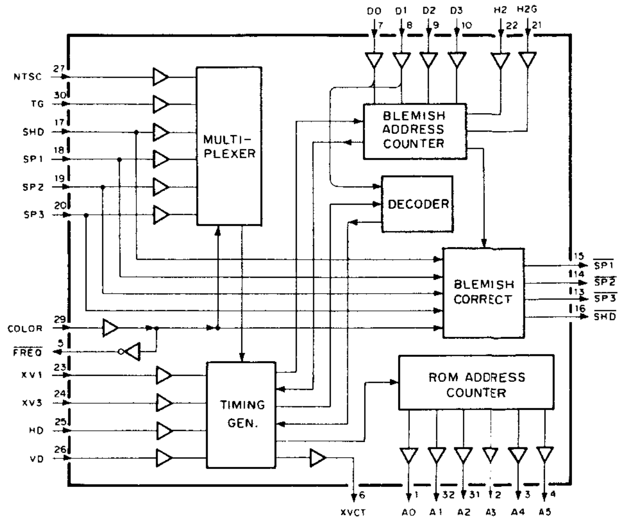

VD
HD
XSG1
XSG2
FRAME
XV4
XV3
XV2
XV1
CCD OUT
582
1 3 5 7 9
583
581
2 4 6 8
CLP1
CLP2
CLP3
PBLK
ID (COLOR)
FIELD
XV4
XV3
XV2
XV1
CCD OUT
581
583
582
2 4 6 8
1 3 5 7 9
582
583
1 3 5 7
2 4 6 8
CLP1
CLP2
CLP3
PBLK

CXD1251Q (SONY)

C-MOS BLEMISH CORRECTOR FOR CCD IMAGER
– TOP VIEW –


A1 OUT 32
A2 OUT 31
TG IN 30
COLOR 29
28
NTSC IN 27
VD IN 26
HD IN 25
VDD (+7V)
A0 OUT 1
A3 OUT 2
A4 OUT 3
A5 OUT 4
FREQ OUT 5
XVCT OUT 6
D0 IN 7
D1 IN 8
24 XV3 IN
23 XV1 IN
22 H2 IN
21 H2G IN
20 SP3 IN
19 SP2 IN
18 SP1 IN
17 SHD IN
GND
9 D2 IN
10 D3 IN
11 TEST IN
12
13 SP3 OUT
14 SP2 OUT
15 SP1 OUT
16 SHD OUT


7 D0
8 D1
9 D2
10 D3
22 H2
21 H2G
27 NTSC
30 TG
17 SHD
18 SP1
19 SP2
20 SP3
29 COLOR
5 FREQ
23 XV1
24 XV3
25 HD
26 VD
A0 1
A1 32
A2 31
A3 2
A4 3
A5 4
SP1 15
SP2 14
SP3 13
SHD 16
XVCT 6


D0 D1 D2 D3 H2 H2G
7 8 9 10 22 21
NTSC 27
TG 30
SHD 17
SP1 18
SP2 19
SP3 20
MULTI-PLEXER
BLEMISH ADDRESS COUNTER
DECODER
BLEMISH CORRECT
15 SP1
14 SP2
13 SP3
16 SHD
COLOR 29
FREQ 5
XV1 23
XV3 24
HD 25
VD 26
TIMING GEN.
ROM ADDRESS COUNTER
6 XVCT
1 A0
32 A1
31 A2
2 A3
3 A4
4 A5

MODE SELECTION

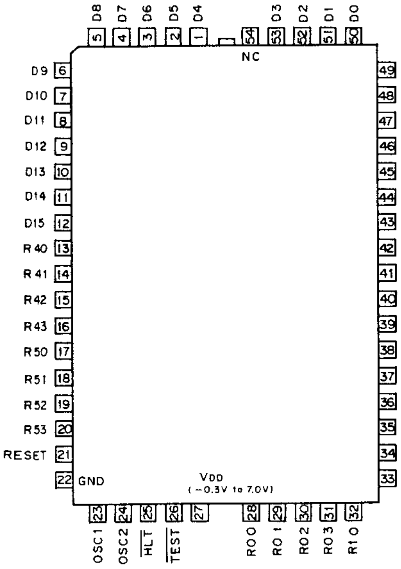
	1	0
NTSC	CCIR MODE	NTSC MODE
COLOR	B/W MODE	COLOR MODE
TG	IC FOR TG: CXD1149 USE	IC FOR TG: CXD1155/1156 USE

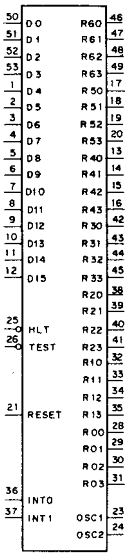
1 ; HIGH LEVEL
0 ; LOW LEVEL

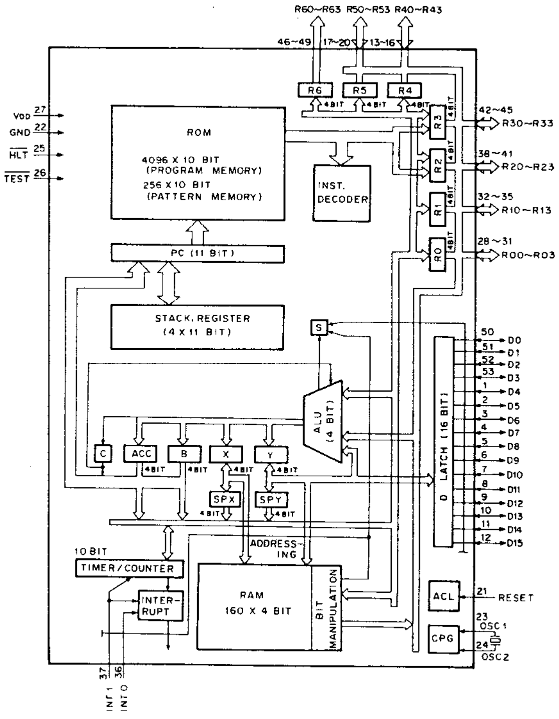
D1-D4 ; EXTERNAL ROM DATA INPUT
A0-A5 ; EXTERNAL ROM ADDRESS OUTPUT
SP1-SP3 ; SAMPLE HOLD PULSE FOR BLEMISH CORRECTION
SHD ; DATA SAMPLE HOLD PULSE
H2,H2G ; CLOCK INPUT FOR HORIZONTAL REGISTER TRANSMISSION
XV1,XV3 ; CLOCK INPUT FOR VERTICAL REGISTER TRANSMISSION
XVCT ; POWER CONTROL OUTPUT FOR EXTERNAL ROM
HD ; HORIZONTAL DRIVE INPUT
VD ; VERTICAL DRIVE INPUT

HD44860B42 (HITACHI) FLAT PACKAGE

C-MOS 4-BIT MICROPROCESSOR
– TOP VIEW –


D8 D7 D6 D5 D4 D3 D2 D1 D0
5 4 3 2 1 54 53 52 51 50
NC
D9 6
D10 7
D11 8
D12 9
D13 10
D14 11
D15 12
R40 13
R41 14
R42 15
R43 16
R50 17
R51 18
R52 19
R53 20
RESET 21
22 GND
49 R63
48 R62
47 R61
46 R60
45 R33
44 R32
43 R31
42 R30
41 R23
40 R22
39 R21
38 R20
37 INT1
36 INT0
35 R13
34 R12
33 R11
VDD (−0.3V to 7.0V)
23 OSC1
24 OSC2
25 HLT
26 TEST
27
28 R00
29 R01
30 R02
31 R03
32 R10


50 D0
51 D1
52 D2
53 D3
1 D4
2 D5
3 D6
4 D7
5 D8
6 D9
7 D10
8 D11
9 D12
10 D13
11 D14
12 D15
25 HLT
26 TEST
21 RESET
36 INT0
37 INT1
R60 46
R61 47
R62 48
R63 49
R50 17
R51 18
R52 19
R53 20
R40 13
R41 14
R42 15
R43 16
R30 42
R31 43
R32 44
R33 45
R20 38
R21 39
R22 40
R23 41
R10 32
R11 33
R12 34
R13 35
R00 28
R01 29
R02 30
R03 31
OSC1 23
OSC2 24


R60~R63 R50~R53 R40~R43
46~49 17~20 13~16
R6 R5 R4
4BIT
VDD 27
GND 22
HLT 25
TEST 26
ROM
4096 X 10 BIT (PROGRAM MEMORY)
256 X 10 BIT (PATTERN MEMORY)
INST. DECODER
R3 R2 R1 R0
42~45 R30~R33
38~41 R20~R23
32~35 R10~R13
28~31 R00~R03
PC (11 BIT)
STACK REGISTER (4 X 11 BIT)
S
ALU (4 BIT)
C ACC B X Y
SPX SPY
D LATCH (16 BIT)
50 D0
51 D1
52 D2
53 D3
1 D4
2 D5
3 D6
4 D7
5 D8
6 D9
7 D10
8 D11
9 D12
10 D13
11 D14
12 D15
10 BIT
TIMER/COUNTER
ADDRESSING
INTERRUPT
RAM 160 X 4 BIT
BIT MANIPULATION
ACL
21 RESET
CPG
23 OSC1
24 OSC2
37 INT1
36 INT0

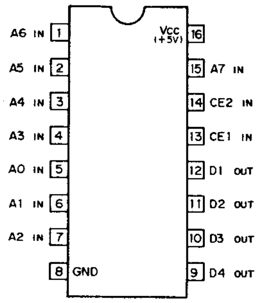
D0-D15 ; DATA INPUT/OUTPUT
R00-R03;
R10-R13;
R20-R23;
R30-R33; } REGIST INPUT/OUTPUT
R40-R43;
R50-R53;
R60-R63; REGIST OUTPUT

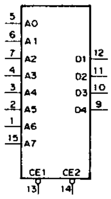
RESET ; RESET INPUT
OSC1, OSC2 ; OSCILLATOR INPUT
INT0, INT1 ; INTERRUPT INPUT
TEST ; TEST INPUT
HLT ; HALT INPUT

MB7114LPF (FUJITSU) (ACCESS TIME = 50nS) FLAT PACKAGE

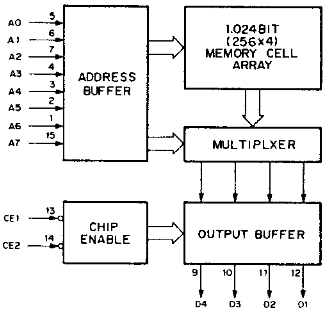
1024-BIT (256x4) PROM

– TOP VIEW –


A6 IN 1
A5 IN 2
A4 IN 3
A3 IN 4
A0 IN 5
A1 IN 6
A2 IN 7
8 GND
Vcc (+5V) 16
15 A7 IN
14 CE2 IN
13 CE1 IN
12 D1 OUT
11 D2 OUT
10 D3 OUT
9 D4 OUT


5 A0
6 A1
7 A2
4 A3
3 A4
2 A5
1 A6
15 A7
D1 12
D2 11
D3 10
D4 9
CE1 13
CE2 14

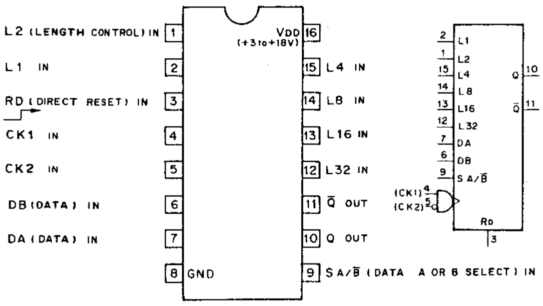
A0–A7 ;ADDRESS INPUTS
D1–D4 ;DATA OUTPUTS
CE1,CE2 ;CHIP ENABLE INPUTS


A0 5
A1 6
A2 7
A3 4
A4 3
A5 2
A6 1
A7 15
ADDRESS BUFFER
1,024 BIT (256x4) MEMORY CELL ARRAY
MULTIPLXER
CE1 13
CE2 14
CHIP ENABLE
OUTPUT BUFFER
9 10 11 12
D4 D3 D2 D1

MC14557BF (MOTOROLA) FLAT PACKAGE

C-MOS 1-TO-64-BIT VARIABLE LENGTH SHIFT REGISTER

– TOP VIEW –


L2 (LENGTH CONTROL) IN 1
L1 IN 2
RD (DIRECT RESET) IN 3
CK1 IN 4
CK2 IN 5
DB (DATA) IN 6
DA (DATA) IN 7
8 GND
VDD (+3 to +18V) 16
15 L4 IN
14 L8 IN
13 L16 IN
12 L32 IN
11 Q̄ OUT
10 Q OUT
9 SA/B̄ (DATA A OR B SELECT) IN
2 L1
1 L2
15 L4
14 L8
13 L16
12 L32
7 DA
6 DB
9 SA/B̄
(CK1) 4
(CK2) 5
Q 10
Q̄ 11
RD 3

LENGTH SELECT TRUTH TABLE

L32	L16	L8	L4	L2	L1	REGISTER LENGTH
0	0	0	0	0	0	1 - BIT
0	0	0	0	0	1	2 - BIT
0	0	0	0	1	0	3 - BIT
0	0	0	0	1	1	4 - BIT
0	0	0	1	0	0	5 - BIT
⋮	⋮	⋮	⋮	⋮	⋮	⋮
1	1	1	1	0	0	61 - BIT
1	1	1	1	0	1	62 - BIT
1	1	1	1	1	0	63 - BIT
1	1	1	1	1	1	64 - BIT

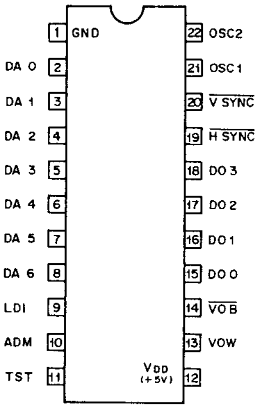
INPUTS				OUTPUT
RD	SA/B̄	CK1	CK2	Q
0	0	↑	0	DB
0	1	↑	0	DA
0	0	1	↓	DB
0	1	1	↓	DA
1	X	X	X	0

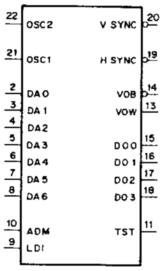
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MN1237AD (MATSUSHITA)

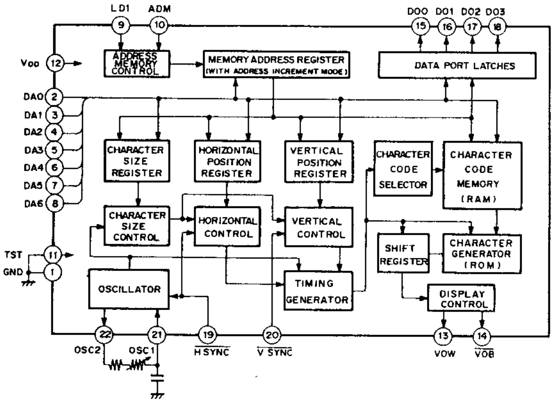
C-MOS INDICATES DATA OF 60 CHARACTERS CRT INTERFACE

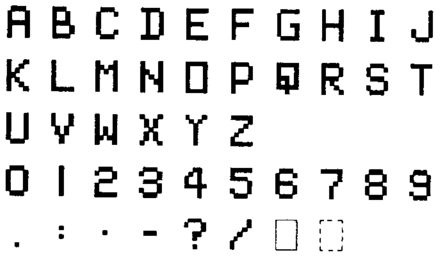
– TOP VIEW –


1 GND
DA 0 2
DA 1 3
DA 2 4
DA 3 5
DA 4 6
DA 5 7
DA 6 8
LDI 9
ADM 10
TST 11
VDD (+5V) 12
22 OSC2
21 OSC1
20 V̄ ̄S̄ȲN̄C̄
19 H̄ ̄S̄ȲN̄C̄
18 DO 3
17 DO 2
16 DO 1
15 DO 0
14 V̄ŌB̄
13 VOW


22 OSC2
21 OSC1
2 DA0
3 DA1
4 DA2
5 DA3
6 DA4
7 DA5
8 DA6
10 ADM
9 LDI
V SYNC 20
H SYNC 19
VOB 14
VOW 13
DO0 15
DO1 16
DO2 17
DO3 18
TST 11

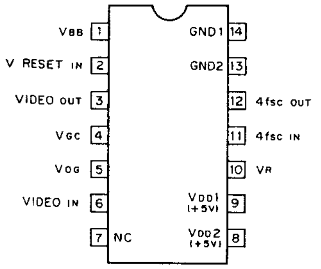
ADM	; ADDRESS MODE SELECT IN
DA0~DA6	; DATA BUS INPUT
DO0~DO3	; GENERAL OUTPUT
H SYNC	; H SYNC INPUT
LDI	; STROBE PULSE INPUT
OSC1,2	; OSC
TST	; TEST
VOB	; BACKGROUND OUTPUT
VOW	; CHARACTERS OUTPUT
V SYNC	; V SYNC INPUT

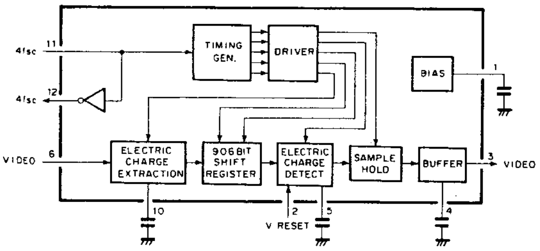

LDI
ADM
DO0 DO1 DO2 DO3
VDD 12
ADDRESS MEMORY CONTROL
MEMORY ADDRESS REGISTER (WITH ADDRESS INCREMENT MODE)
DATA PORT LATCHES
DA0 2
DA1 3
DA2 4
DA3 5
DA4 6
DA5 7
DA6 8
CHARACTER SIZE REGISTER
HORIZONTAL POSITION REGISTER
VERTICAL POSITION REGISTER
CHARACTER CODE SELECTOR
CHARACTER CODE MEMORY (RAM)
CHARACTER SIZE CONTROL
HORIZONTAL CONTROL
VERTICAL CONTROL
SHIFT REGISTER
CHARACTER GENERATOR (ROM)
TST 11
GND 1
OSCILLATOR
TIMING GENERATOR
DISPLAY CONTROL
OSC2 22
OSC1 21
H̄ ̄S̄ȲN̄C̄ 19
V̄ ̄S̄ȲN̄C̄ 20
VOW 13
V̄ŌB̄ 14


A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z
0 1 2 3 4 5 6 7 8 9
. : · - ? /

MN3801 (MATSUSHITA)

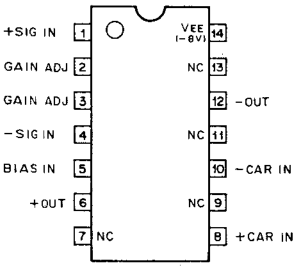
C-MOS CCD 1H DELAY LINE FOR NTSC
– TOP VIEW –

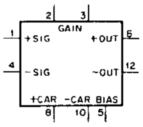

VBB 1
V RESET IN 2
VIDEO OUT 3
VGC 4
VOG 5
VIDEO IN 6
7 NC
GND1 14
GND2 13
12 4fsc OUT
11 4fsc IN
10 VR
VDD1 (+5V) 9
VDD2 (+5V) 8


4fsc
11
4fsc
12
VIDEO
6
TIMING GEN.
DRIVER
BIAS
1
ELECTRIC CHARGE EXTRACTION
906 BIT SHIFT REGISTER
ELECTRIC CHARGE DETECT
SAMPLE HOLD
BUFFER
3
VIDEO
10
2
V RESET
5
4

NJM1496M (JRC) FLAT PACKAGE

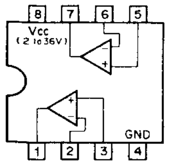
BALANCED MODULATOR/DEMODULATOR
– TOP VIEW –


+SIG IN 1
GAIN ADJ 2
GAIN ADJ 3
–SIG IN 4
BIAS IN 5
+OUT 6
7 NC
VEE (–8V) 14
NC 13
12 –OUT
NC 11
10 –CAR IN
NC 9
8 +CAR IN


2
3
GAIN
1
+SIG
+OUT
6
4
–SIG
–OUT
12
+CAR
–CAR
BIAS
8
10
5

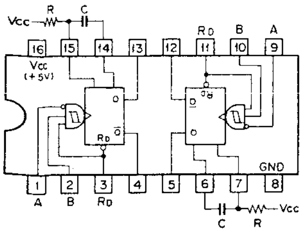
NJM2903M (JRC) FLAT PACKAGE

OPERATIONAL AMPLIFIER
– TOP VIEW –


8
7
6
5
Vcc (2 to 36V)
GND
1
2
3
4

SN74LS221NS (TI) FLAT PACKAGE

TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT
– TOP VIEW –


R
C
Vcc
RD
B
A
16
15
14
13
12
11
10
9
Vcc (+5V)
Q
Q̄
RD
Q
Q̄
RD
GND
1
2
3
4
5
6
7
8
A
B
RD
C
R
Vcc

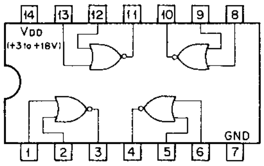
INPUTS			OUTPUTS	
RD	A	B	Q	$\overline{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⎍	⊔
1	↓	1	⎍	⊔
↑	0	1	⎍	⊔

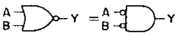
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

OUTPUT PULSE WIDTH = 0.7CR

TC4001BF (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NOR GATE
– TOP VIEW –


14
13
12
11
10
9
8
VDD (+3 to +18V)
GND
1
2
3
4
5
6
7



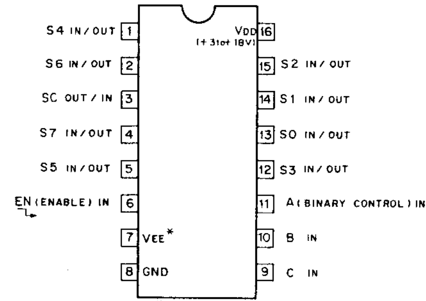
$Y = \overline{A+B} = \overline{A} \cdot \overline{B}$

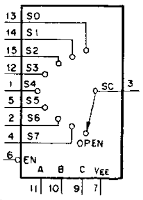
A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC4051BF (TOSHIBA) FLAT PACKAGE

C-MOS 8-CHANNEL MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –


S4 IN/OUT 1
S6 IN/OUT 2
SC OUT/IN 3
S7 IN/OUT 4
S5 IN/OUT 5
EN (ENABLE) IN 6
7 VEE*
8 GND
VDD (+3 to +18V) 16
15 S2 IN/OUT
14 S1 IN/OUT
13 S0 IN/OUT
12 S3 IN/OUT
11 A (BINARY CONTROL) IN
10 B IN
9 C IN


13 S0
14 S1
15 S2
12 S3
1 S4
5 S5
2 S6
4 S7
SC 3
OPEN
6 EN
A
B
C
VEE
11
10
9
7

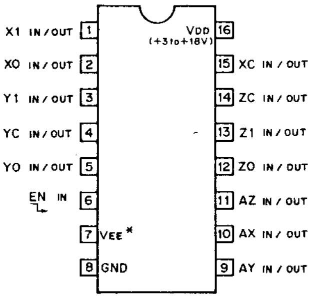
VEE*; VDD – VEE = +3 to +18V

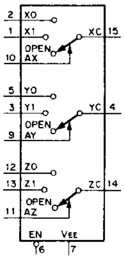
EN	C	B	A	"ON" CHANNEL
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	OPEN

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TC4053BF (TOSHIBA) FLAT PACKAGE
uPD4053BG (NEC) FLAT PACKAGE

C-MOS 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –


X1 IN/OUT 1
X0 IN/OUT 2
Y1 IN/OUT 3
YC IN/OUT 4
Y0 IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD (+3 to +18V) 16
15 XC IN/OUT
14 ZC IN/OUT
13 Z1 IN/OUT
12 Z0 IN/OUT
11 AZ IN/OUT
10 AX IN/OUT
9 AY IN/OUT


2 X0
1 X1
XC 15
OPEN
10 AX
5 Y0
3 Y1
YC 4
OPEN
9 AY
12 Z0
13 Z1
ZC 14
OPEN
11 AZ
EN
VEE
6
7

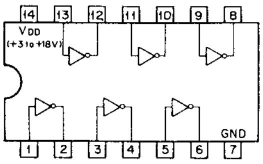
VEE*; VDD – VEE = +3 to +18 V

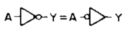
CONT. INPUTS		ON CHANNEL
EN	A (X,Y,Z,)	
0	0	0
0	1	1
1	X	OPEN

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

TC4069UBF (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER
– TOP VIEW –


14
13
12
11
10
9
8
VDD (+3 to +18V)
GND
1
2
3
4
5
6
7



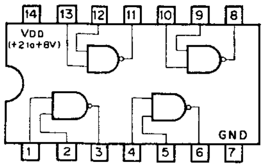
$Y = \overline{A}$

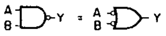
A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

TC40H000F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NAND GATE
- TOP VIEW -


14
13
12
11
10
9
8
VDD
(+2to+8V)
GND
1
2
3
4
5
6
7



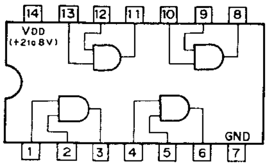
$Y = \overline{A \cdot B} = \overline{A} + \overline{B}$

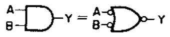
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC40H008F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT POSITIVE-AND GATE
- TOP VIEW -


14
13
12
11
10
9
8
VDD
(+2to8V)
GND
1
2
3
4
5
6
7



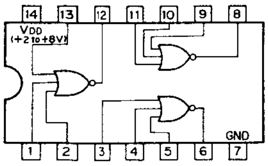
$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

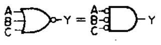
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

TC40H027F (TOSHIBA) FLAT PACKAGE

C-MOS 3-INPUT POSITIVE-NOR GATE
- TOP VIEW -


14
13
12
11
10
9
8
VDD
(+2to+8V)
GND
1
2
3
4
5
6
7



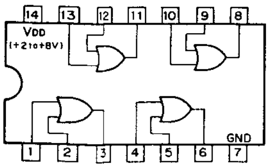
$Y = \overline{A+B+C} = \overline{A} \cdot \overline{B} \cdot \overline{C}$

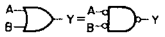
A	B	C	Y
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC40H032F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT POSITIVE-OR GATE
- TOP VIEW -


14
13
12
11
10
9
8
VDD
(+2to+8V)
GND
1
2
3
4
5
6
7



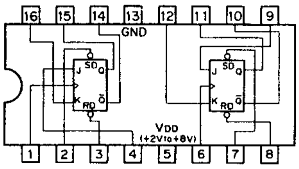
$Y = A + B = \overline{\overline{A} \cdot \overline{B}}$

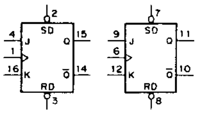
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

TC40H076AF (TOSHIBA) FLAT PACKAGE

C-MOS HIGH SPEED EDGE TRIGGER TYPE J-K FLIP-FLOP WITH DIRECT SET/RESET
- TOP VIEW -


16
15
14
13
12
11
10
9
GND
J
SD
Q
K
RD
Q̄
VDD
(+2Vto+8V)
1
2
3
4
5
6
7
8

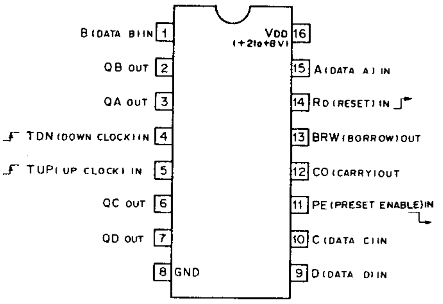

2
SD
4
J
Q
15
1
16
K
Q̄
14
RD
3
7
SD
9
J
Q
11
6
12
K
Q̄
10
RD
8

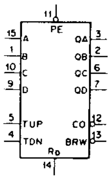
INPUTS					OUTPUTS	
RD	SD	CK	J	K	Q	$\overline{Q}$
1	0	X	X	X	1	0
0	1	X	X	X	0	1
0	0	X	X	X	1	1
1	1	⌝_	0	0	NO CHANGE	
1	1	⌝_	1	0	1	0
1	1	⌝_	0	1	0	1
1	1	⌝_	1	1	TOGGLE	
1	1	_⌐	X	X	NO CHANGE	

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TC40H193F (TOSHIBA) FLAT PACKAGE

C-MOS PRESETTABLE SYNCHRONOUS 4-BIT UP/DOWN COUNTER
- TOP VIEW -


B (DATA B) IN 1
QB OUT 2
QA OUT 3
TDN (DOWN CLOCK) IN 4
TUP (UP CLOCK) IN 5
QC OUT 6
QD OUT 7
8 GND
16 VDD (+2to+8V)
15 A (DATA A) IN
14 RD (RESET) IN
13 BRW (BORROW) OUT
12 CO (CARRY) OUT
11 PE (PRESET ENABLE) IN
10 C (DATA C) IN
9 D (DATA D) IN


11
PE
15
A
1
B
10
C
9
D
QA
3
QB
2
QC
6
QD
7
5
TUP
4
TDN
CO
12
BRW
13
RD
14

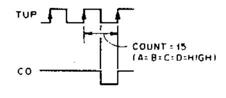
CONTROL INPUTS				MODE
RD	PE	TUP	TDN	
1	X	X	X	RESET TO ZERO
0	0	X	X	PRESET
0	1	_⌐	1	UP COUNT
0	1	1	_⌐	DOWN COUNT
0	1	1	1	NO COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

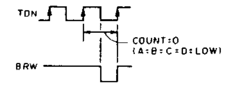
COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

UP COUNT
DOWN COUNT

$CO = \overline{\overline{TUP} \cdot QA \cdot QB \cdot QC \cdot QD}$

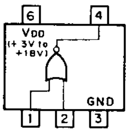

TUP
COUNT = 15
(A=B=C=D=HIGH)
CO

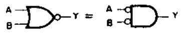
$BRW = \overline{\overline{TDN} \cdot \overline{QA} \cdot \overline{QB} \cdot \overline{QC} \cdot \overline{QD}}$


TDN
COUNT = 0
(A=B=C=D=LOW)
BRW

TC4S01F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NOR GATE
- TOP VIEW -


6
4
VDD
(+3V to
+18V)
GND
1
2
3



$Y = \overline{A+B} = \overline{A} \cdot \overline{B}$

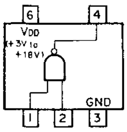
A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

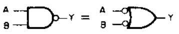
0; LOW LEVEL
1; HIGH LEVEL

TC4S11F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT HAND GATE

– TOP VIEW –


6
4
VDD
(+3V to +18V)
GND
1
2
3



$Y = \overline{A \cdot B} = \bar{A} + \bar{B}$

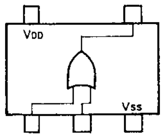
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

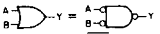
TC4S71F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT OR GATE

– TOP VIEW –



(MINI MOLD PACKAGE)



$Y = A + B = \overline{\bar{A} \cdot \bar{B}}$

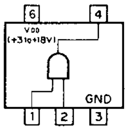
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

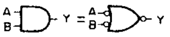
0; LOW LEVEL
1; HIGH LEVEL

TC4S81F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT AND GATE

– TOP VIEW –


6
4
VDD
(+3 to +18V)
GND
1
2
3



$Y = A \cdot B = \overline{\bar{A} + \bar{B}}$

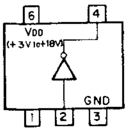
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

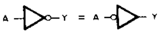
0:LOW LEVEL
1:HIGH LEVEL

TC4SU69F (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER BUFFER

– TOP VIEW –


6
4
VDD
(+3V to +18V)
GND
1
2
3



$Y = \bar{A}$

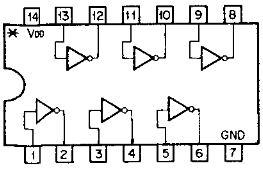
A	Y
0	1
1	0

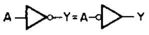
0; LOW LEVEL
1 ; HIGH LEVEL

TC74HC04F (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER

– TOP VIEW –


14
13
12
11
10
9
8
* VDD
GND
1
2
3
4
5
6
7



$Y = \bar{A}$

A	Y
0	1
1	0

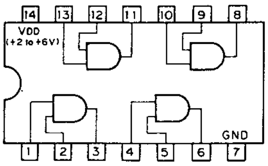
0:LOW LEVEL
1:HIGH LEVEL

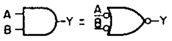
* VDD HC,HCU; +2to+6V
HCT; +5V

TC74HC08F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT AND GATE

– TOP VIEW –


14
13
12
11
10
9
8
VDD
(+2 to +6V)
GND
1
2
3
4
5
6
7



$Y = A \cdot B = \overline{\bar{A} + \bar{B}}$

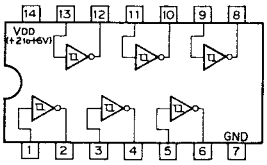
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

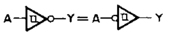
0; LOW LEVEL
1; HIGH LEVEL

TC74HC14F (TOSHIBA) FLAT PACKAGE

C-MOS SCHMITT TRIGGER INVERTER

– TOP VIEW –

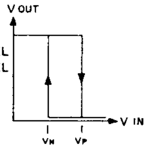

14
13
12
11
10
9
8
VDD
(+2 to +6V)
GND
1
2
3
4
5
6
7



$Y = \bar{A}$

A	Y
0	1
1	0

0;LOW LEVEL
1;HIGH LEVEL

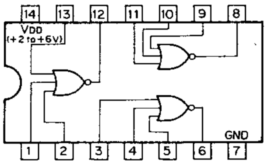


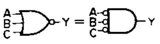
VDD	VN	VP
2.0V	0.75V	1.25V
4.5V	1.9V	2.7V
6.0V	2.6V	3.6V

TC74HC27F (TOSHIBA) FLAT PACKAGE

C-MOS 3-LINE POSITIVE-NOR GATE

– TOP VIEW –


14
13
12
11
10
9
8
VDD
(+2 to +6V)
GND
1
2
3
4
5
6
7



$Y = \overline{A + B + C} = \bar{A} \cdot \bar{B} \cdot \bar{C}$

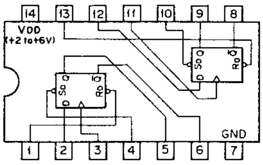
A	B	C	Y
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

0;LOW LEVEL
1 ;HIGH LEVEL

TC74HC74F (TOSHIBA) FLAT PACKAGE

C-MOS D-TYPE FLIP FLOP WITH DIRECT SET/RESET

– TOP VIEW –


14
13
12
11
10
9
8
VDD
(+2 to +6V)
SD
RD
Q
Q
D
CK
GND
1
2
3
4
5
6
7

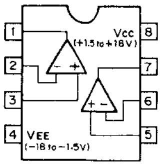
INPUTS				OUTPUTS	
SD	RD	CK	D	Qn+1	$\overline{Qn+1}$
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1*	1*
1	1	↑	1	1	0
1	1	↑	0	0	1
1	1	0	X	Qn	$\overline{Qn}$

0; LOW LEVEL
1 ; HIGH LEVEL
X; DON'T CARE
1*; NONSTABLE

IC

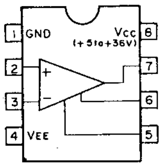
TL062ACPS (TI) FLAT PACKAGE

OPERATIONAL AMPLIFIER
(JFET INPUT)
- TOP VIEW -


1
2
3
4
VEE
(−18 to −1.5V)
Vcc
(+1.5 to +18V)
8
7
6
5

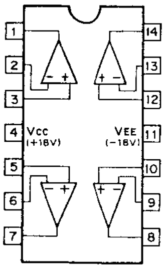
uPC311G2 (NEC) FLAT PACKAGE

VOLTAGE COMPARATOR
- TOP VIEW -


1
GND
2
3
4
VEE
Vcc
(+5 to +36V)
8
7
6
5

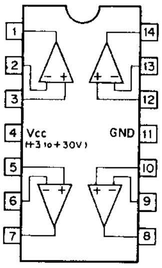
TL064CNS (TI) FLAT PACKAGE

OPERATIONAL AMPLIFIER
(J FET-INPUT)
- TOP VIEW -


1
2
3
4
Vcc
(+18V)
5
6
7
14
13
12
VEE
(−18V)
11
10
9
8

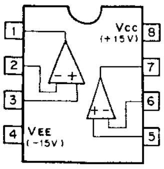
uPC324G2 (NEC) FLAT PACKAGE

QUAD. OP AMPLIFIER
- TOP VIEW -


1
2
3
4
Vcc
(+3 to +30V)
5
6
7
14
13
12
GND
11
10
9
8

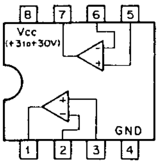
TL082CPS (TI) FLAT PACKAGE

OPERATIONAL AMPLIFIER
(J FET-INPUT)
- TOP VIEW -


1
2
3
4
VEE
(−15V)
Vcc
(+15V)
8
7
6
5

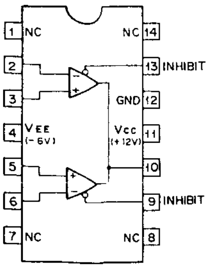
uPC358G2 (NEC) FLAT PACKAGE

DUAL OPERATIONAL AMPLIFIERS
- TOP VIEW -


8
7
6
5
Vcc
(+3 to +30V)
GND
1
2
3
4

uA711CNS (TI)

VOLTAGE COMPARATOR
- TOP VIEW -

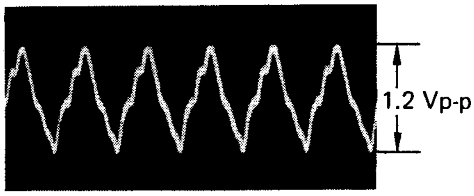

1
NC
2
3
4
VEE
(−6V)
5
6
7
NC
NC
14
13
INHIBIT
GND
12
Vcc
(+12V)
11
10
9
INHIBIT
NC
8

IE-23

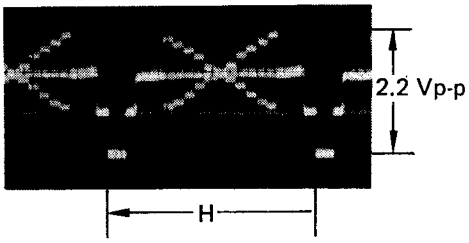
NOTE:

1. All voltage are dc, measured with a digital voltmeter. (input impedance: 10MΩ)
2. All waveforms are taken and DC voltage is measured in condition below.
   - Set camera FILTER selector to 1 position.
   - Set camera BARS/WB selector to 3200°K position.
   - Set camera GAIN selector to 0dB position.
   - Set camera S1 switch/IE-23 board (DTL ON/OFF) to ON position.
   - Shoot the grayscale chart. Adjust lens iris so that a white level is 100IRE (For NTSC) or 700mV (For PAL) on the waveform monitor.

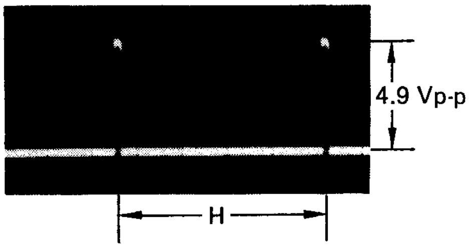
CN1-1pin



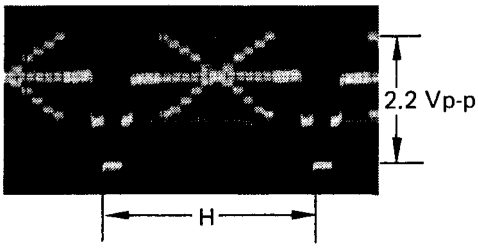
CN2-3 pin



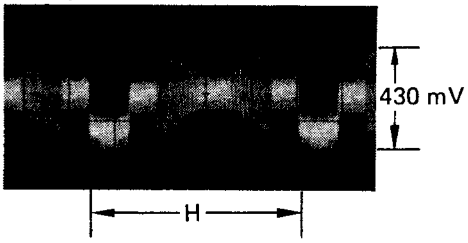
CN1-5pin



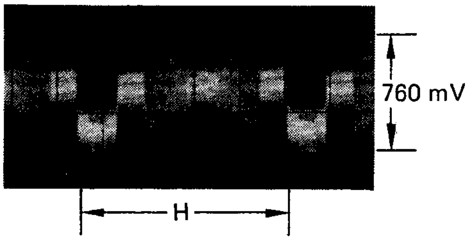
CN2-2pin



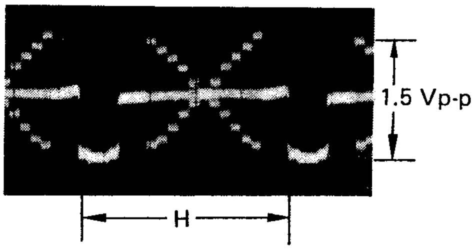
IC1-6pin



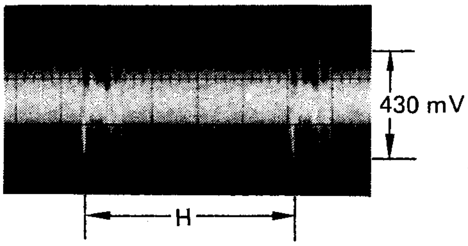
IC1-3pin



TP1



TP4

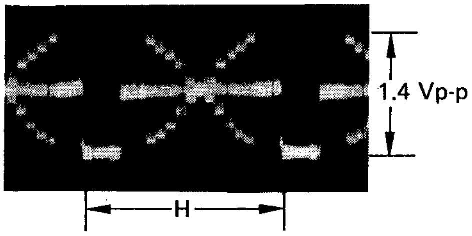


AT-53

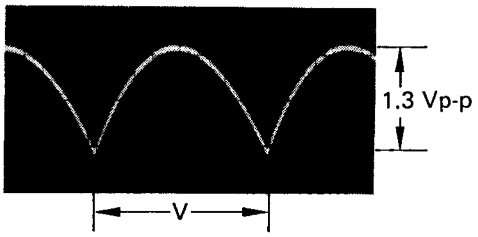
NOTE:

1. All voltage are dc, measured with a digital voltmeter. (input impedance: 10MΩ)
2. All waveforms are taken in condition below.
   - Shoot the grayscale pattern on the pattern box. Adjust lens iris so that a white level is 100IRE (For NTSC) or 700mV (For PAL) using the waveform monitor.

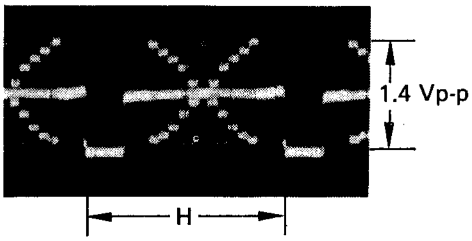
CN2-5, 6, 7



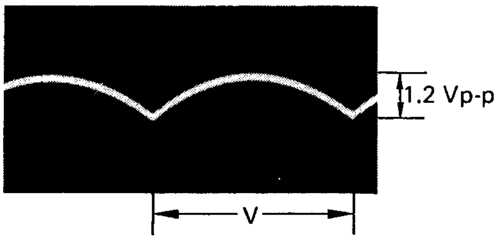
IC7-1pin



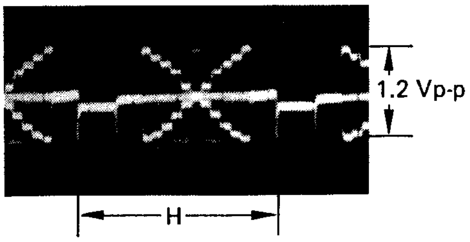
Q13-emitter



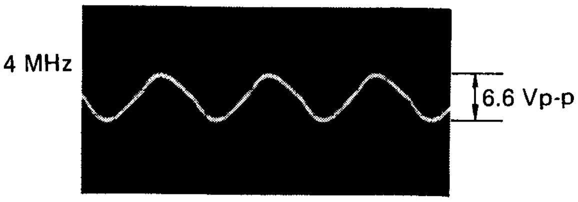
IC7-7pin



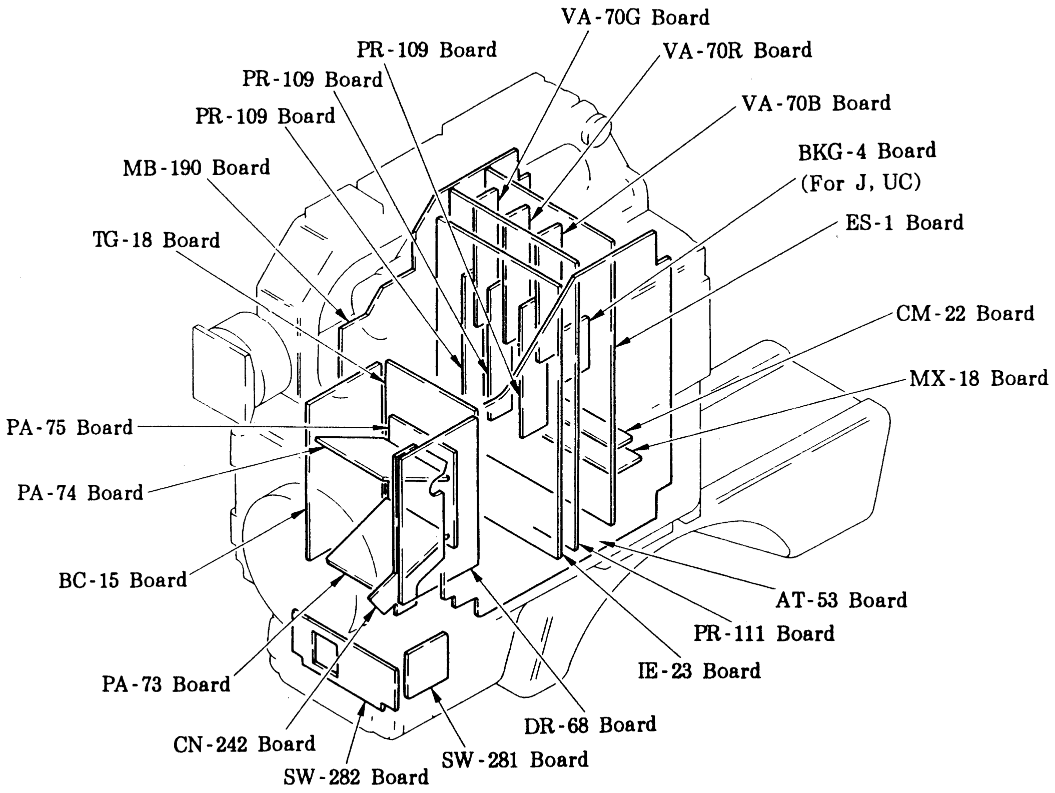
IC4-12pin



IC9-23pin

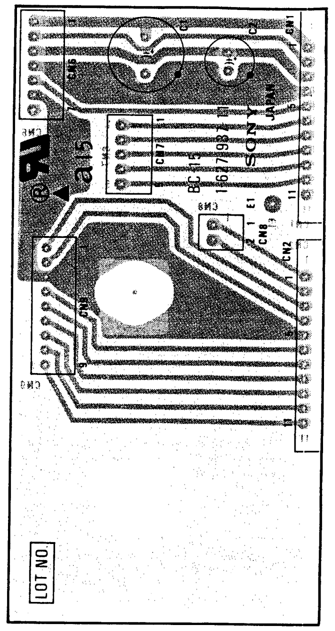


SECTION C
SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS


VA-70G Board
PR-109 Board
VA-70R Board
PR-109 Board
PR-109 Board
VA-70B Board
MB-190 Board
BKG-4 Board
(For J, UC)
ES-1 Board
TG-18 Board
CM-22 Board
MX-18 Board
PA-75 Board
PA-74 Board
BC-15 Board
AT-53 Board
PR-111 Board
IE-23 Board
PA-73 Board
DR-68 Board
CN-242 Board
SW-281 Board
SW-282 Board

BC-15 BOARD

Ser.NO.10001-11720 (UC)
30001-30840 (J)
40001-42530 (EK)



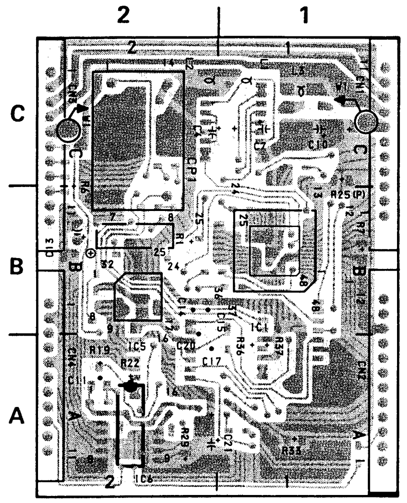
1-627-937-11 COMPONENT SIDE

TG-38 BOARD

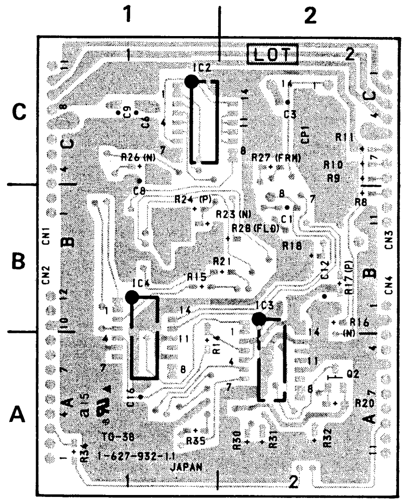
Ser.NO.10001-11720 (UC)
30001-30840 (J)
40001-42530 (EK)

TG-38 (1-627-932-11)

CN1	C-1
CN2	A-1
CN3	C-2
CN4	A-2
CP1	C-2
D13	B-2
IC1	B-1
IC2	C-1
IC3	A-2
IC4	A-1
IC5	B-2
IC6	A-2
Q2	A-2



1-627-932-11 COMPONENT SIDE



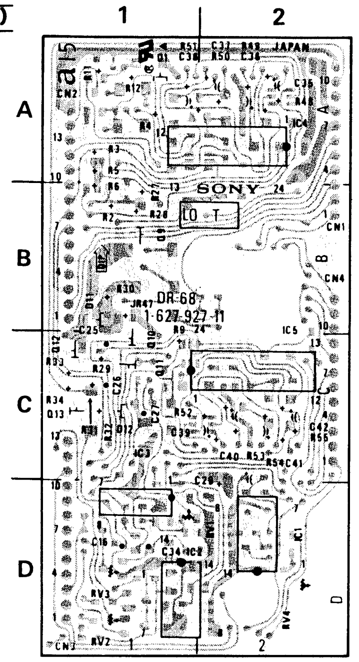
1-627-932-11 SOLDERING SIDE

DR-68 BOARD

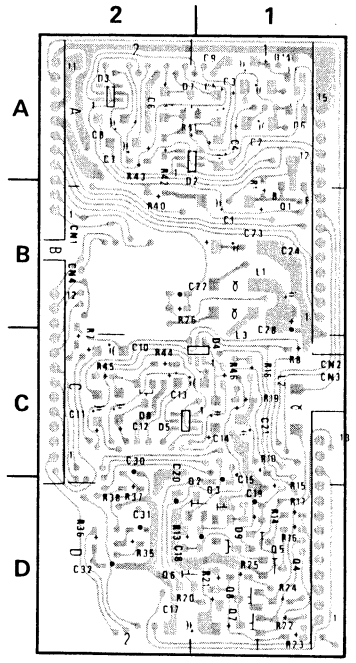
Ser.NO.10001-11720 (UC)
30001-30840 (J)
40001-42530 (EK)

DR-68 (1-627-927-11)

CN1	A-2
CN2	B-1
CN3	D-1
CN4	C-2
D1	A-1
D2	A-1
D3	A-2
D4	C-1
D5	C-2
D6	A-1
D7	A-2
D8	C-2
D9	D-1
D11	B-1
D12	C-1
IC1	D-2
IC2	D-1
IC3	D-1
IC4	A-2
IC5	C-2
Q1	B-1
Q2	D-1
Q3	D-1
Q4	D-1
Q5	D-1
Q6	D-2
Q7	D-1
Q8	D-1
Q9	B-1
Q10	C-1
Q11	C-1
Q12	C-1
Q13	C-1
Q14	A-1
RV1	D-1
RV2	D-1
RV3	D-1
RV4	D-2



1-627-927-11 COMPONENT SIDE



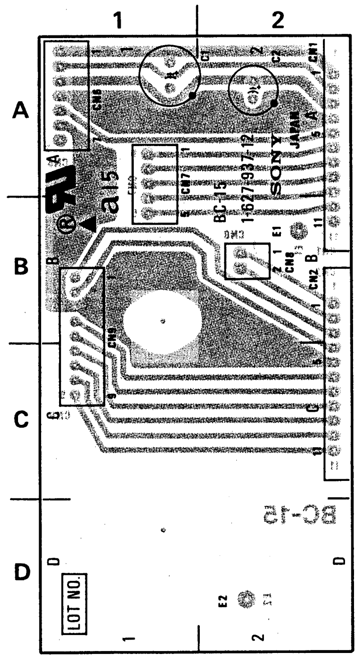
1-627-927-11 SOLDERING SIDE

BC-15 BOARD

Ser.NO.11721-	(UC)
30841-	(J)
42531-	(EK)

BC-15 (1-627-937-12)

CN1	A-2
CN2	C-2
CN6	A-1
CN7	A-1
CN8	B-2
CN9	B-1


1
2
A
B
C
D
BC-15
SONY
LOT NO.
1
2

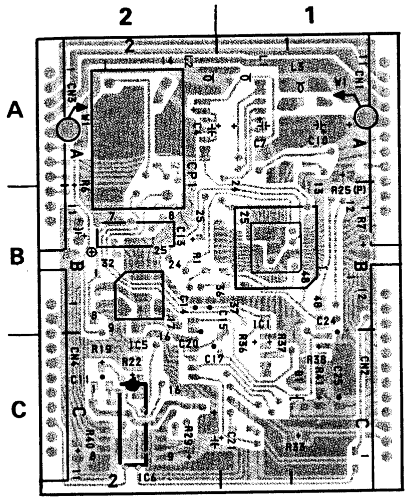
1-627-937-12 COMPONENT SIDE

TG-38 BOARD

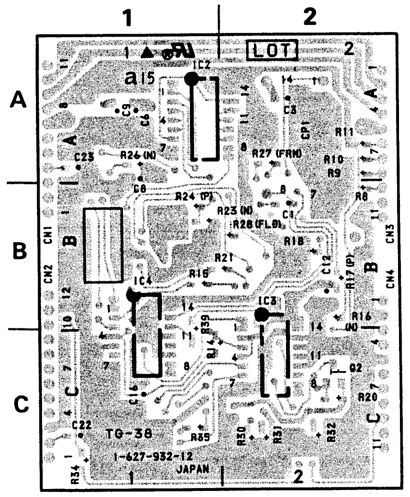
Ser.NO.11721-	(UC)
30841-	(J)
42531-	(EK)

TG-38 (1-627-932-12)

CN1	A-1
CN2	C-1
CN3	A-2
CN4	C-2
CP1	A-2
D1	C-1
IC1	B-1
IC2	A-1
IC3	C-2
IC4	C-1
IC5	B-2
IC6	C-2
Q2	C-2



1-627-932-12 COMPONENT SIDE


1
2
A
B
C
LOT
TG-38
1-627-932-12
JAPAN
2

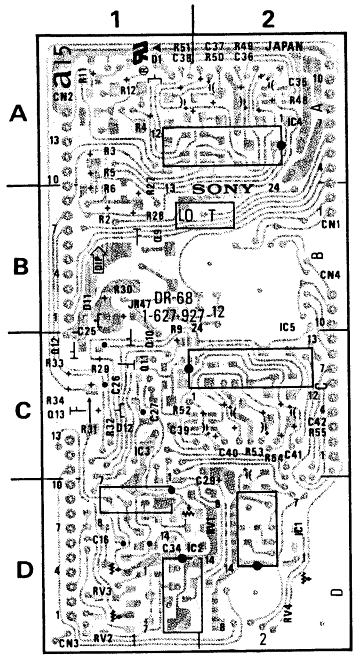
1-627-932-12 SOLDERING SIDE

DR-68 BOARD

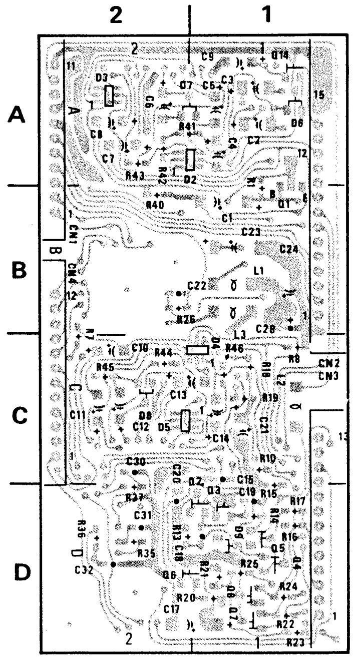
Ser.NO.11721-	(UC)
30841-	(J)
42531-	(EK)

DR-68 (1-627-927-12)

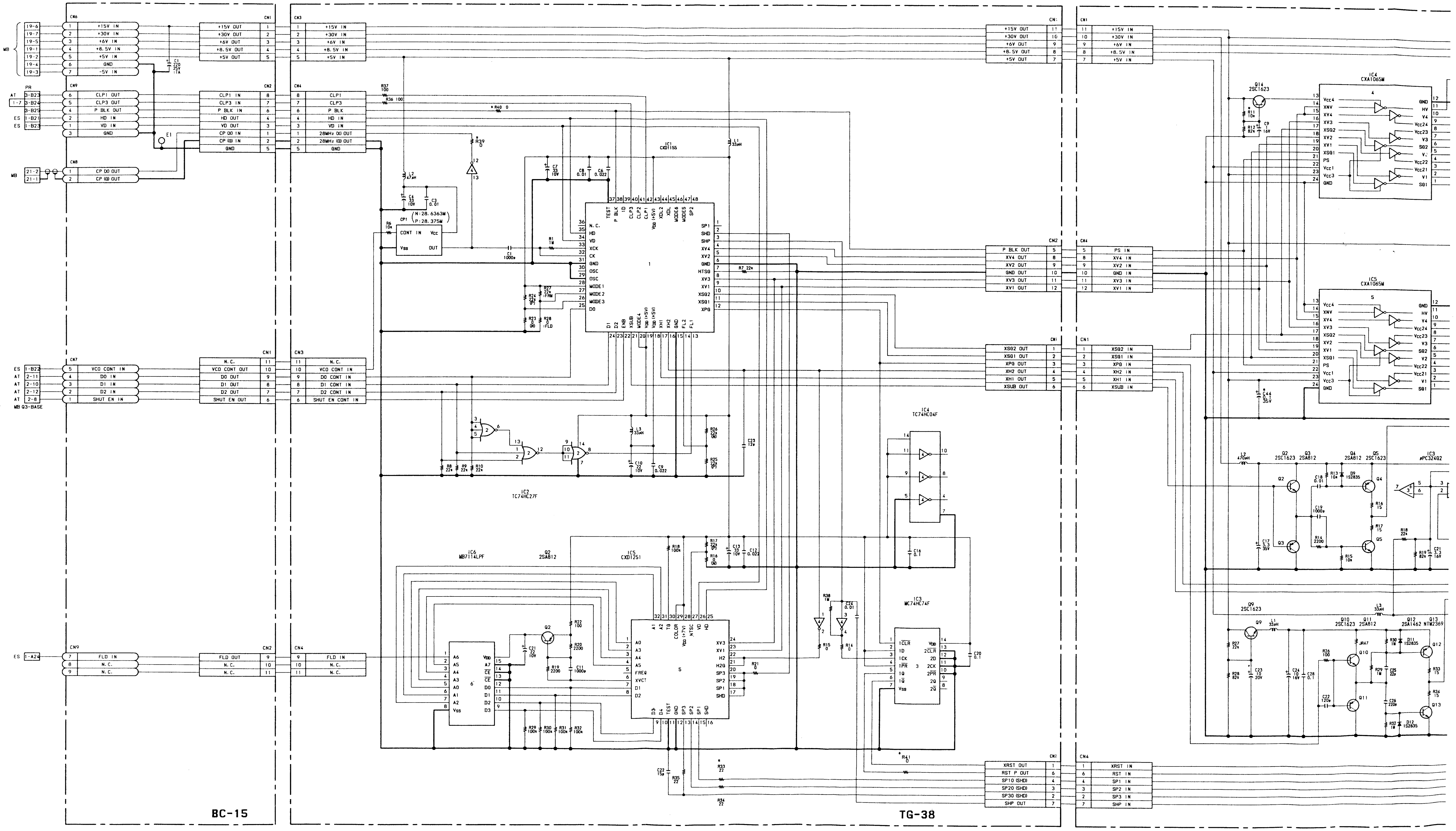
CN1	A-2
CN2	B-1
CN3	D-1
CN4	C-2
E1	B-2
D1	A-1
D2	A-1
D3	A-2
D4	C-1
D5	C-2
D6	A-1
D7	A-2
D8	C-2
D9	D-1
D11	B-1
D12	C-1
IC1	D-2
IC2	D-1
IC3	D-1
IC4	A-2
IC5	C-2
Q1	B-1
Q2	D-1
Q3	D-1
Q4	D-1
Q5	D-1
Q6	D-2
Q7	D-1
Q8	D-1
Q9	B-1
Q10	C-1
Q11	C-1
Q12	C-1
Q13	C-1
Q14	A-1
RV1	D-1
RV2	D-1
RV3	D-1
RV4	D-2
TP1	C-1
TP2	D-2
TP3	D-1
TP4	C-1
TP5	C-1

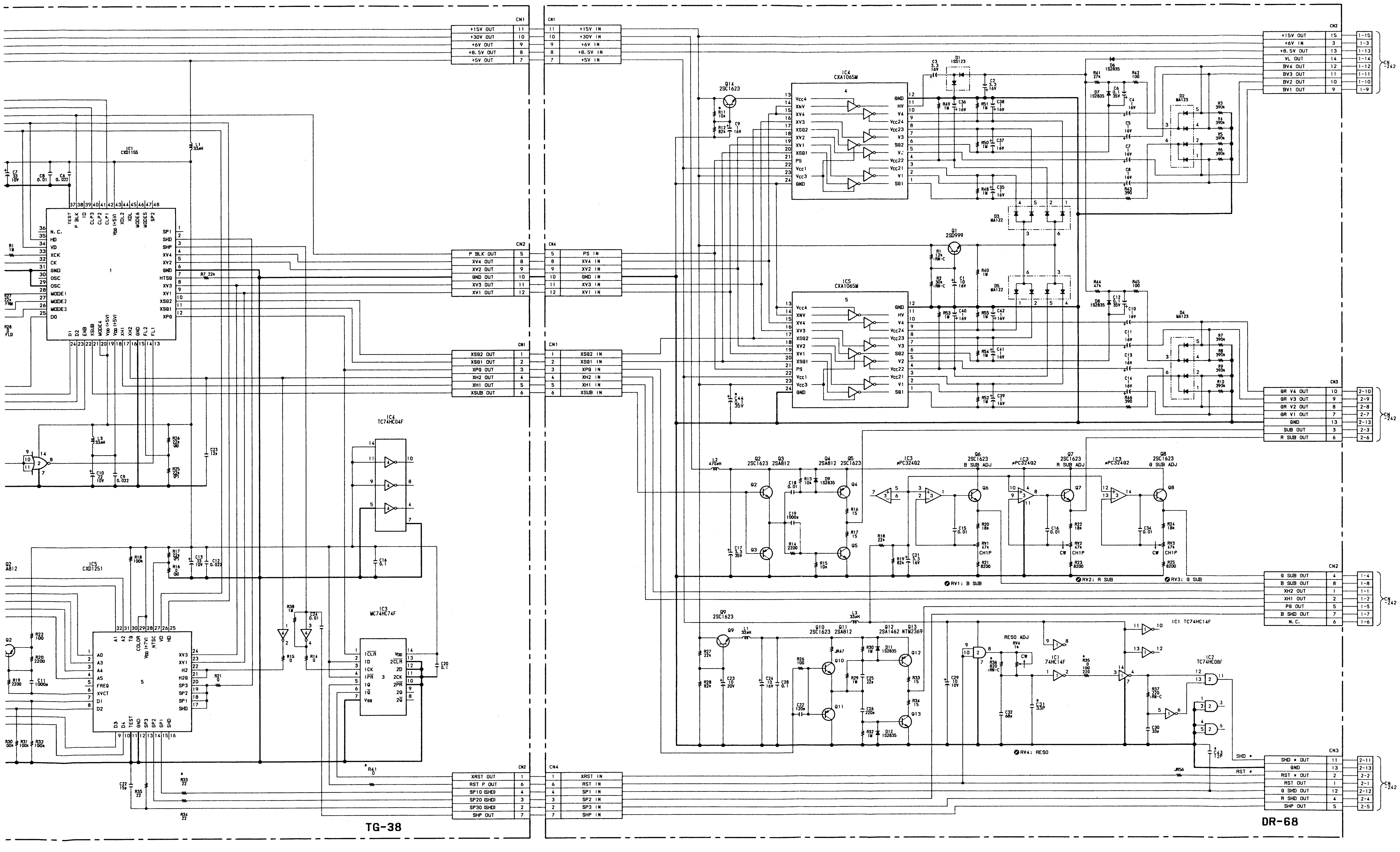

1
2
A
B
C
D
SONY
DR-68
1-627-927-12
JAPAN

1-627-927-12 COMPONENT SIDE



1-627-927-12 SOLDERING SIDE


BC-15
TG-38
MB
PR
CN6
CN9
CN8
CN7
CN1
CN2
CN3
CN4
+15V IN
+30V IN
+6V IN
+8.5V IN
+5V IN
GND
-5V IN
+15V OUT
+30V OUT
+6V OUT
+8.5V OUT
+5V OUT
CLP1 OUT
CLP3 OUT
P BLK OUT
HD IN
VD IN
CP OUT
CP IN
28MHz OUT
VCO CONT IN
D0 IN
D1 IN
D2 IN
SHUT EN IN
SHUT EN CONT IN
FLD IN
FLD OUT
N.C.
IC1 CXD1155
IC2 TC74HC27F
IC3 MC74HC74F
IC4 TC74HC04F
IC5 CXD1251
IC6 MB7114LPF
Q2 2SA812
CP1 N:28.6363M P:28.375M
P BLK OUT
XV4 OUT
XV2 OUT
GND OUT
XV3 OUT
XV1 OUT
XSG2 OUT
XSG1 OUT
XPG OUT
XH2 OUT
XH1 OUT
XSUB OUT
XRST OUT
RST P OUT
SP1O (SHD)
SP2O (SHD)
SP3O (SHD)
SHP OUT
PS IN
XV4 IN
XV2 IN
GND IN
XV3 IN
XV1 IN
XSG2 IN
XSG1 IN
XPG IN
XH2 IN
XH1 IN
XSUB IN
XRST IN
RST IN
SP1 IN
SP2 IN
SP3 IN
SHP IN
IC4 CXA1065M
IC5 CXA1065M
IC3 μPC324G2
Q14 2SC1623
Q2 2SC1623
Q3 2SA812
Q4 2SA812
Q5 2SC1623
Q9 2SC1623
Q10 2SC1623
Q11 2SA812
Q12 2SA1462
Q13 NTM2369

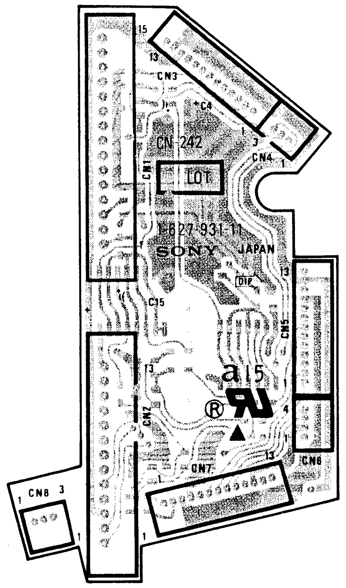

TG-38
DR-68
IC1 CXD1155
IC5 CXD1251
IC4 TC74HC04F
IC3 MC74HC74F
IC4 CXA1065M
IC5 CXA1065M
Q1 2SD999
Q14 2SC1623
IC3 μPC324G2
IC1 TC74HC14F
IC2 TC74HC08F
RV1: B SUB
RV2: R SUB
RV3: G SUB
RV4: RESO
RESO ADJ
B SUB ADJ
R SUB ADJ
G SUB ADJ
CN1
CN2
CN3
CN4
CN-242
+15V OUT
+30V OUT
+6V OUT
+8.5V OUT
+5V OUT
+15V IN
+30V IN
+6V IN
+8.5V IN
+5V IN
P BLK OUT
XV4 OUT
XV2 OUT
GND OUT
XV3 OUT
XV1 OUT
PS IN
XV4 IN
XV2 IN
GND IN
XV3 IN
XV1 IN
XSG2 OUT
XSG1 OUT
XPG OUT
XH2 OUT
XH1 OUT
XSUB OUT
XSG2 IN
XSG1 IN
XPG IN
XH2 IN
XH1 IN
XSUB IN
XRST OUT
RST P OUT
SP1Q (SHD)
SP2Q (SHD)
SP3Q (SHD)
SHP OUT
XRST IN
RST IN
SP1 IN
SP2 IN
SP3 IN
SHP IN
VL OUT
BV4 OUT
BV3 OUT
BV2 OUT
BV1 OUT
GR V4 OUT
GR V3 OUT
GR V2 OUT
GR V1 OUT
GND
SUB OUT
R SUB OUT
G SUB OUT
B SUB OUT
XH2 OUT
XH1 OUT
PG OUT
B SHD OUT
N.C.
SHD * OUT
RST * OUT
RST OUT
G SHD OUT
R SHD OUT
SHP OUT

* CHANGE INFORMATION

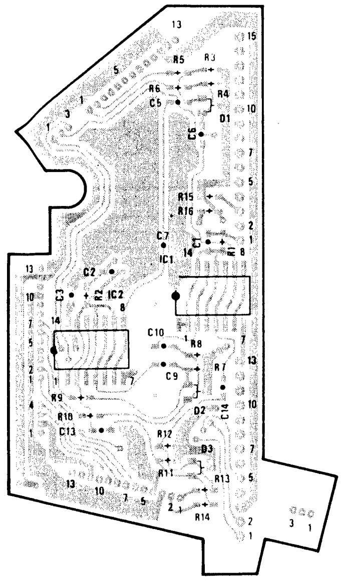
BOARD	REF. NO	DESCRIPTION	EFECTIVE SER. NO
DR-68	R11	33K → 10K	11271 - (UC) 30811 - (J) 42081 - (EK)
DR-68	R35	0 →(CHOICE) { 0 / 100 / 220	11721 - (UC) 30841 - (J) 42531 - (EK)
	R36	5600 → 820	
	C31	33P → ADD	
	C43	12P → ADD	
	C44	0.1/35V → ADD	
TG-38	R33	47 → 22	
	R39 R40 R41	} 0 → ADD	

CN-242 BOARD

Ser.NO.10001-11720 (UC)
30001-30840 (J)
40001-42530 (EK)


CN-242
LOT
1-627-931-11
SONY
JAPAN
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8

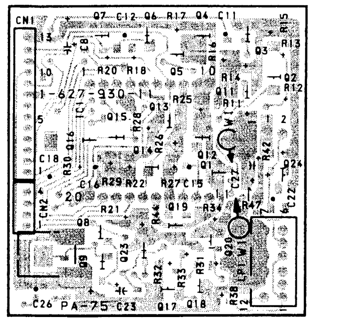
1-627-931-11 COMPONENT SIDE



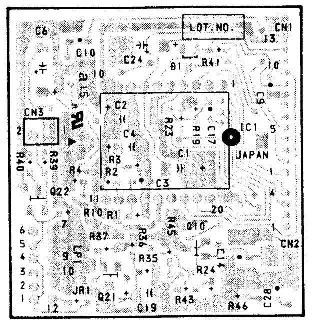
1-627-931-11 SOLDERING SIDE

PA-75 BOARD

Ser.NO.10001-11720 (UC)
30001-30840 (J)
40001-42530 (EK)



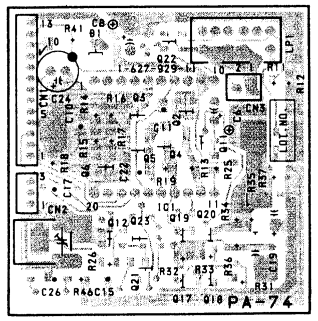
1-627-930-11 COMPONENT SIDE


LOT.NO.
JAPAN

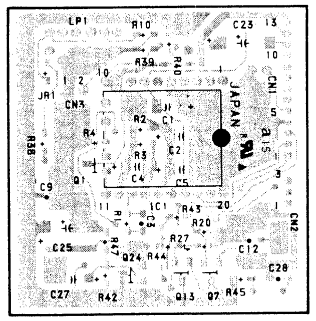
1-627-930-11 SOLDERING SIDE

PA-74 BOARD

Ser.NO.10001-11720 (UC)
30001-30840 (J)
40001-42530 (EK)



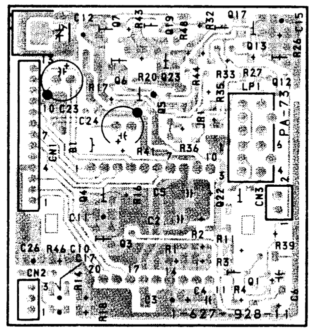
1-627-929-11 COMPONENT SIDE



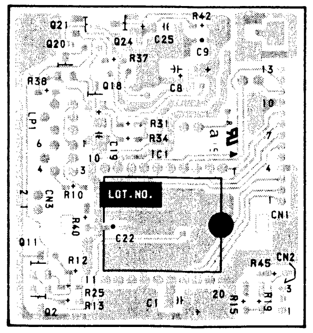
1-627-929-11 SOLDERING SIDE

PA-73 BOARD

Ser.NO.10001-11720 (UC)
30001-30840 (J)
40001-42530 (EK)



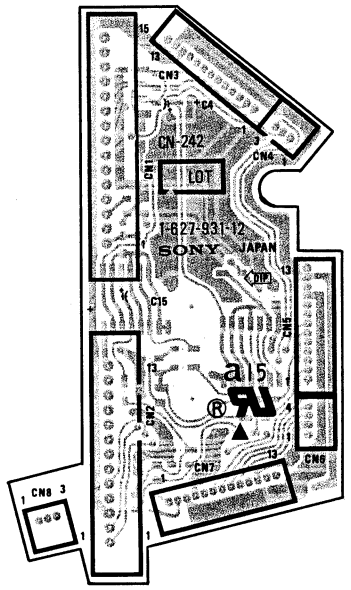
1-627-928-11 COMPONENT SIDE



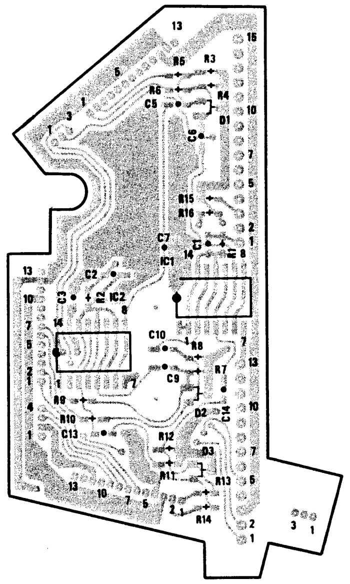
1-627-928-11 SOLDERING SIDE

CN-242 BOARD

Ser.NO.11721- (UC)
30841- (J)
42531- (EK)


CN-242
LOT
1-627-931-12
SONY
JAPAN
CN1
CN2
CN3
CN4
CN6
CN7
CN8
C14
C15

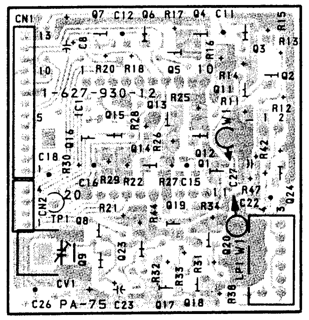
1-627-931-12 COMPONENT SIDE


IC1
IC2
C2
C7
C9
C10
C13
R3
R4
R5
R6
R7
R8
R10
R12
R13
R14
R15
R16
D1
D2
D3

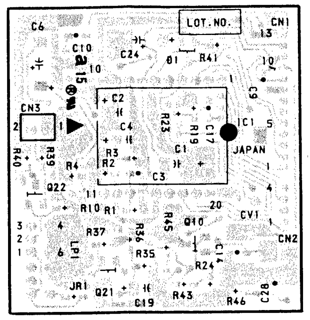
1-627-931-12 SOLDERING SIDE

PA-75 BOARD

Ser.NO.11721- (UC)
30841- (J)
42531- (EK)


CN1
CN2
1-627-930-12
PA-75
TP1
CV1

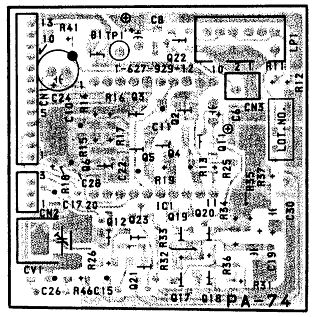
1-627-930-12 COMPONENT SIDE


LOT. NO.
CN1
CN2
CN3
IC1
JAPAN
JR1
CV1

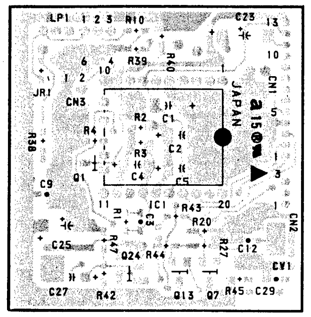
1-627-930-12 SOLDERING SIDE

PA-74 BOARD

Ser.NO.11721- (UC)
30841- (J)
42531- (EK)


1-627-929-12
PA-74
TP1
LOT. NO.
CN1
CN2
CN3
IC1
CV1
LP1

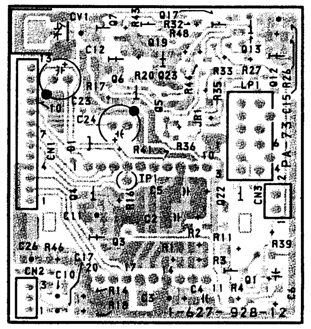
1-627-929-12 COMPONENT SIDE


LP1
JR1
CN1
CN2
CN3
IC1
JAPAN
CV1

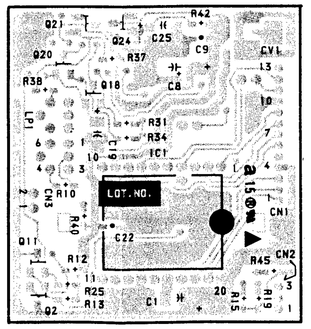
1-627-929-12 SOLDERING SIDE

PA-73 BOARD

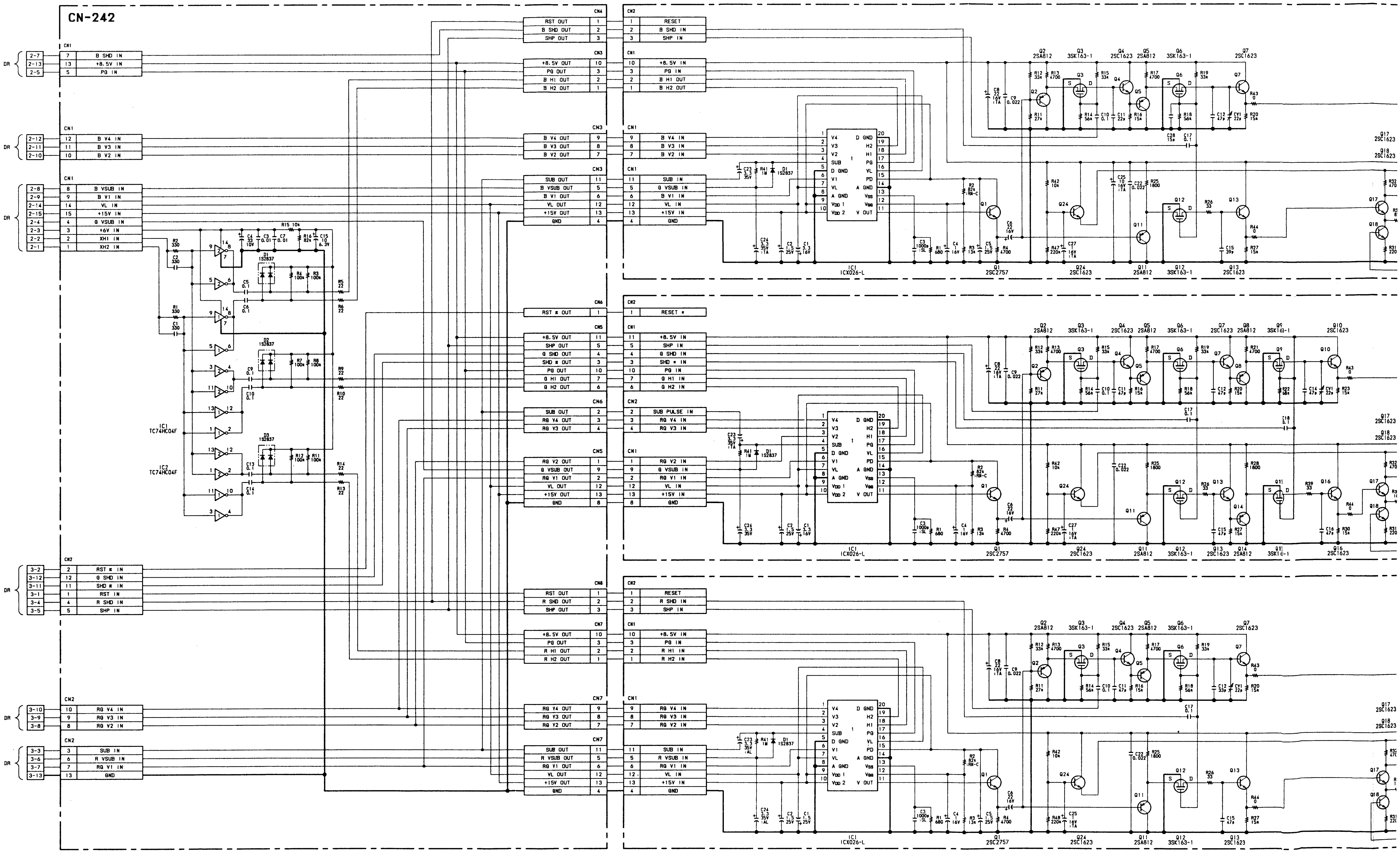
Ser.NO.11721- (UC)
30841- (J)
42531- (EK)


CV1
TP1
LP1
PA-73
CN1
CN2
1-627-928-12

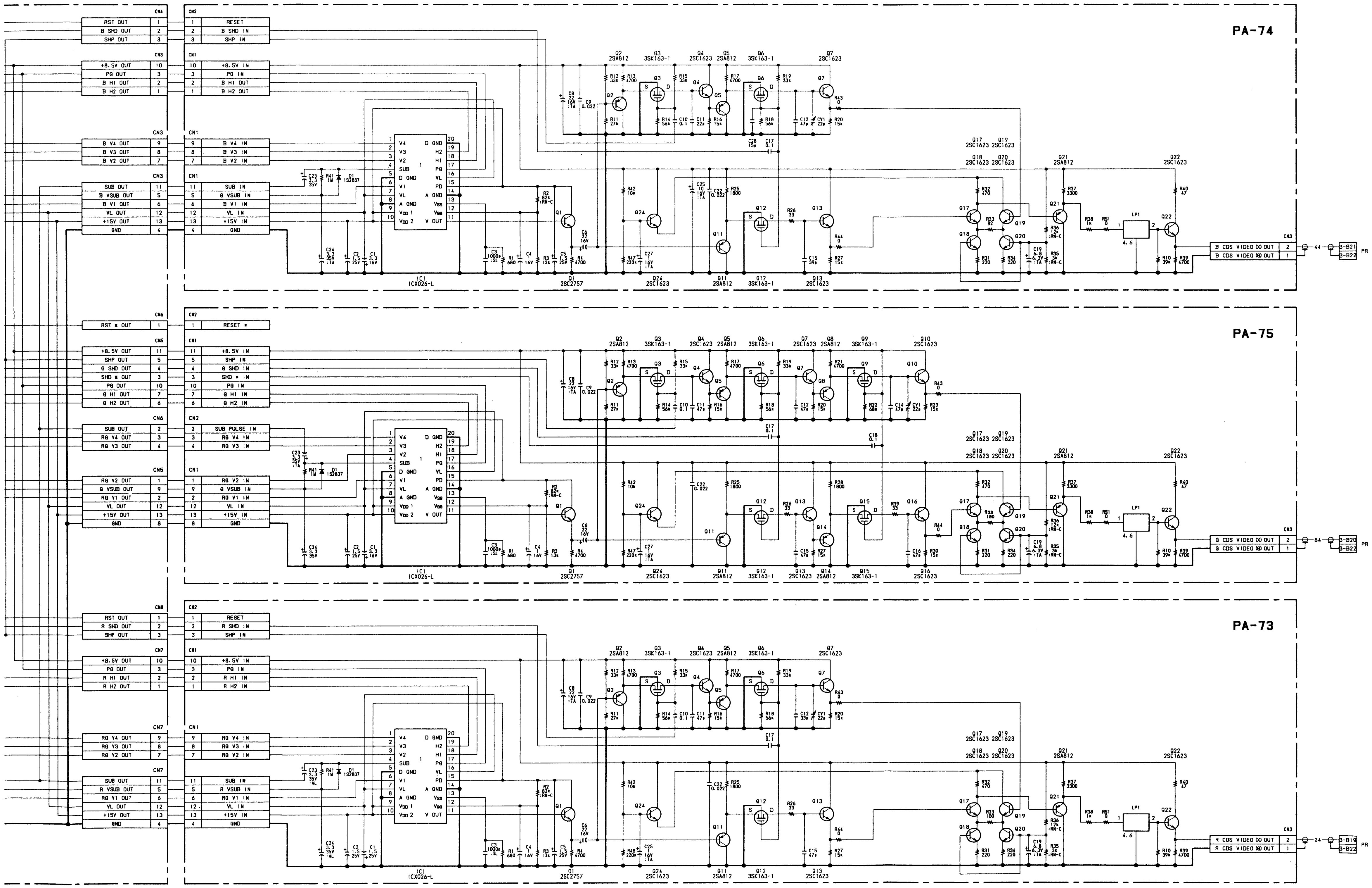
1-627-928-12 COMPONENT SIDE


CV1
LOT. NO.
IC1
CN1
CN2
CN3
LP1

1-627-928-12 SOLDERING SIDE


CN-242
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
DR
B SHD IN
+8.5V IN
PG IN
B V4 IN
B V3 IN
B V2 IN
B VSUB IN
B V1 IN
VL IN
+15V IN
G VSUB IN
+6V IN
XH1 IN
XH2 IN
RST OUT
B SHD OUT
SHP OUT
+8.5V OUT
PG OUT
B H1 OUT
B H2 OUT
SUB OUT
VL OUT
+15V OUT
GND
RESET
RST * OUT
SHD * OUT
SUB PULSE IN
RG V4 IN
RG V3 IN
RG V2 IN
RG V1 IN
R VSUB IN
R SHD IN
SHP IN
SUB IN
IC1
TC74HC04F
IC2
TC74HC04F
IC1
ICX026-L
Q1
2SC2757
Q2
2SA812
Q3
3SK163-1
Q4
2SC1623
Q5
2SA812
Q6
3SK163-1
Q7
2SC1623
Q11
2SA812
Q12
3SK163-1
Q13
2SC1623
Q24
2SC1623
D1
1S2837

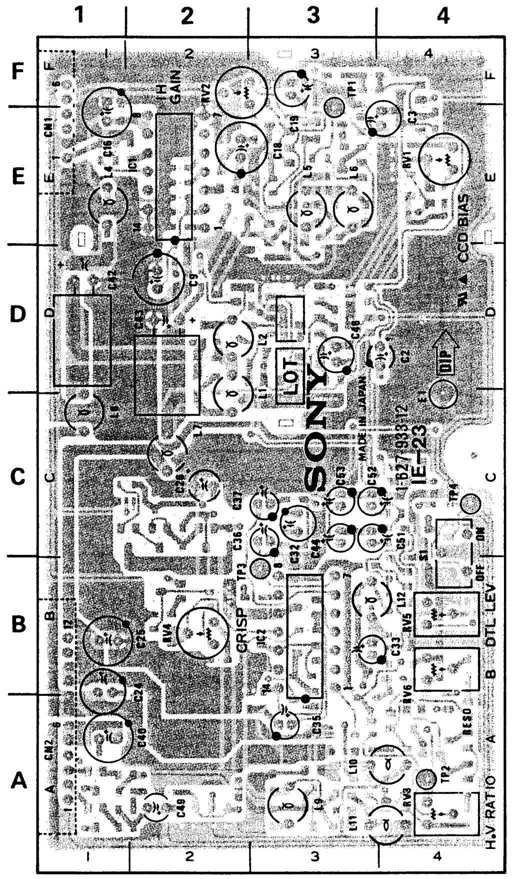
DXC-325 (J, UC)
DXC-325P (EK)


PA-74
PA-75
PA-73
CN4
CN2
RST OUT
B SHD OUT
SHP OUT
RESET
B SHD IN
SHP IN
CN3
CN1
+8.5V OUT
PG OUT
B H1 OUT
B H2 OUT
+8.5V IN
PG IN
B V4 OUT
B V3 OUT
B V2 OUT
B V4 IN
B V3 IN
B V2 IN
SUB OUT
B VSUB OUT
B V1 OUT
VL OUT
+15V OUT
GND
SUB IN
G VSUB IN
B V1 IN
VL IN
+15V IN
IC1
ICX026-L
Q1
2SC2757
Q2
2SA812
Q3
3SK163-1
Q4
2SC1623
Q11
2SA812
Q12
3SK163-1
Q24
2SC1623
LP1
B CDS VIDEO (X) OUT
B CDS VIDEO (G) OUT
3-B21
3-B22
PR
CN6
RST * OUT
RESET *
SHD * OUT
SHD * IN
SUB PULSE IN
G CDS VIDEO (X) OUT
G CDS VIDEO (G) OUT
3-B20
CN8
R SHD OUT
R SHD IN
R H1 OUT
R H2 OUT
R VSUB OUT
R V1 OUT
R CDS VIDEO (X) OUT
R CDS VIDEO (G) OUT
3-B19

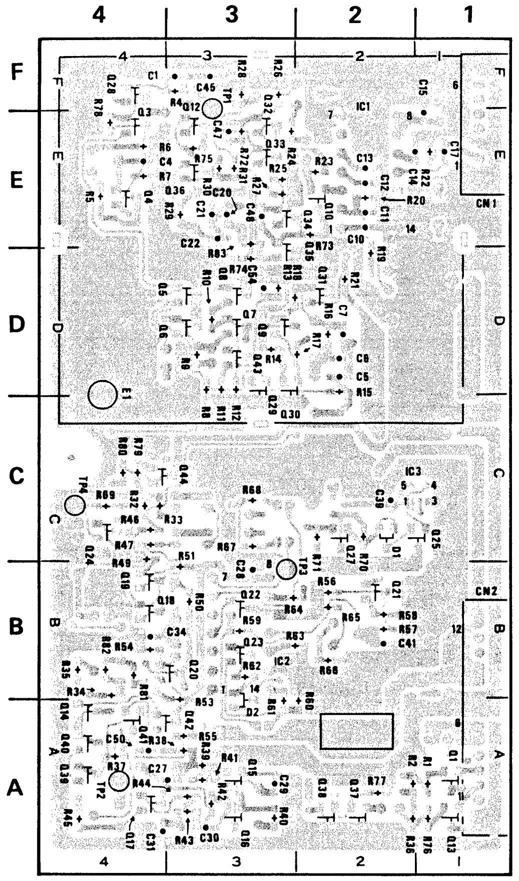
Ser.No.10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)

IE-23 (1-627-933-11,12)

CN1	E-1
CN2	A-1
D1	C-2
D2	A-3
E1	C-4
IC1	E-2
IC2	B-3
IC3	C-1
Q1	A-1
Q3	E-4
Q4	E-4
Q5	D-3
Q6	D-3
Q7	D-3
Q8	D-3
Q9	D-3
Q10	E-2
Q12	E-3
Q13	A-1
Q14	A-4
Q15	A-3
Q16	A-3
Q17	A-4
Q18	B-4
Q19	B-4
Q20	B-3
Q21	B-2
Q22	B-3
Q23	B-3
Q24	C-4
Q25	C-1
Q27	C-2
Q28	F-4
Q29	D-3
Q30	D-3
Q31	D-2
Q32	E-3
Q33	E-3
Q34	E-3
Q35	D-3
Q36	E-3
Q37	A-2
Q38	A-2
Q39	A-4
Q40	A-4
Q41	A-4
Q42	A-4
Q43	D-3
Q44	C-4
RV1	E-4
RV2	F-2
RV3	A-4
RV4	B-2
RV5	B-4
RV6	B-4
S1	C-4
TP1	E-3
TP2	A-4
TP3	B-3
TP4	C-4


1
2
3
4
F
E
D
C
B
A
CN1
CN2
H GAIN
CCD BIAS
SONY
IE-23
1-627-933-12
MADE IN JAPAN
LOT
DIP
CRISP
DTL LEV
RESO
H.V RATIO
ON
OFF

1-627-933-11 COMPONENT SIDE


4
3
2
1
F
E
D
C
B
A
CN1
CN2
IC1
IC2
IC3
E1

1-627-933-11 SOLDERING SIDE

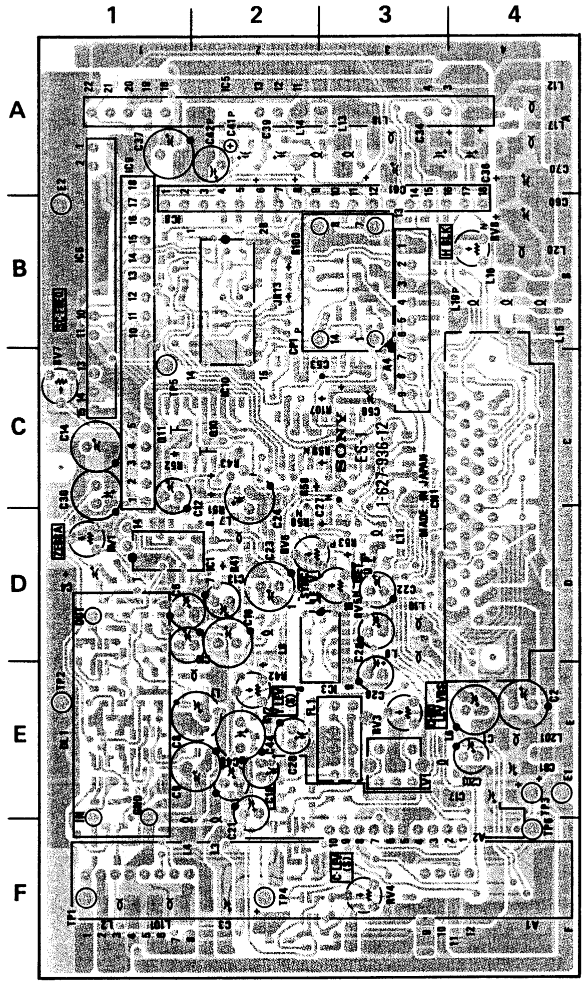
IE-23 (1-627-933-11,12)

CN1	E-1
CN2	A-1
D1	C-2
D2	A-3
E1	C-4
IC1	E-2
IC2	B-3
IC3	C-1
Q1	A-1
Q3	E-4
Q4	E-4
Q5	D-3
Q6	D-3
Q7	D-3
Q8	D-3
Q9	D-3
Q10	E-2
Q12	E-3
Q13	A-1
Q14	A-4
Q15	A-3
Q16	A-3
Q17	A-4
Q18	B-4
Q19	B-4
Q20	B-3
Q21	B-2
Q22	B-3
Q23	B-3
Q24	C-4
Q25	C-1
Q27	C-2
Q28	F-4
Q29	D-3
Q30	D-3
Q31	D-2
Q32	E-3
Q33	E-3
Q34	E-3
Q35	D-3
Q36	E-3
Q37	A-2
Q38	A-2
Q39	A-4
Q40	A-4
Q41	A-4
Q42	A-4
Q43	D-3
Q44	C-4
RV1	E-4
RV2	F-2
RV3	A-4
RV4	B-2
RV5	B-4
RV6	B-4
S1	C-4
TP1	E-3
TP2	A-4
TP3	B-3
TP4	C-4

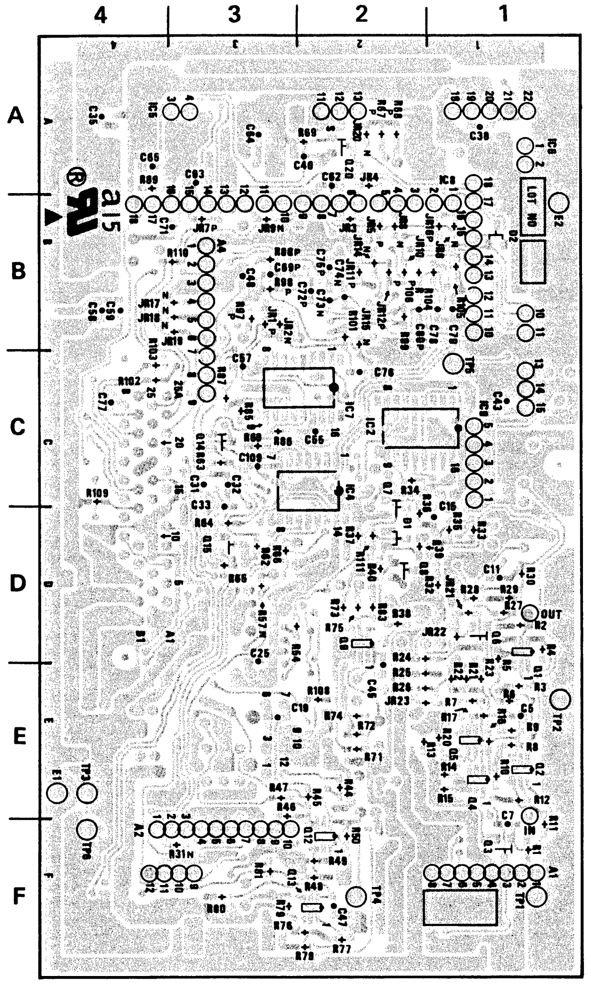
Ser.No.11271- (UC)
30811- (J)
42081- (EK)

IE-23 (1-627-933-11,12)

CN1	E-1
CN2	A-1
D1	C-2
D2	A-3
E1	C-4
IC1	E-2
IC2	B-3
IC3	C-1
Q1	A-1
Q3	E-4
Q4	E-4
Q5	D-3
Q6	D-3
Q7	D-3
Q8	D-3
Q9	D-3
Q10	E-2
Q12	E-3
Q13	A-1
Q14	A-4
Q15	A-3
Q16	A-3
Q17	A-4
Q18	B-4
Q19	B-4
Q20	B-3
Q21	B-2
Q22	B-3
Q23	B-3
Q24	C-4
Q25	C-1
Q27	C-2
Q28	F-4
Q29	D-3
Q30	D-3
Q31	D-2
Q32	E-3
Q33	E-3
Q34	E-3
Q35	D-3
Q36	E-3
Q37	A-2
Q38	A-2
Q39	A-4
Q40	A-4
Q41	A-4
Q42	A-4
Q43	D-3
Q44	C-4
RV1	E-4
RV2	F-2
RV3	A-4
RV4	B-2
RV5	B-4
RV6	B-4
S1	C-4
TP1	E-3
TP2	A-4
TP3	B-3
TP4	C-4



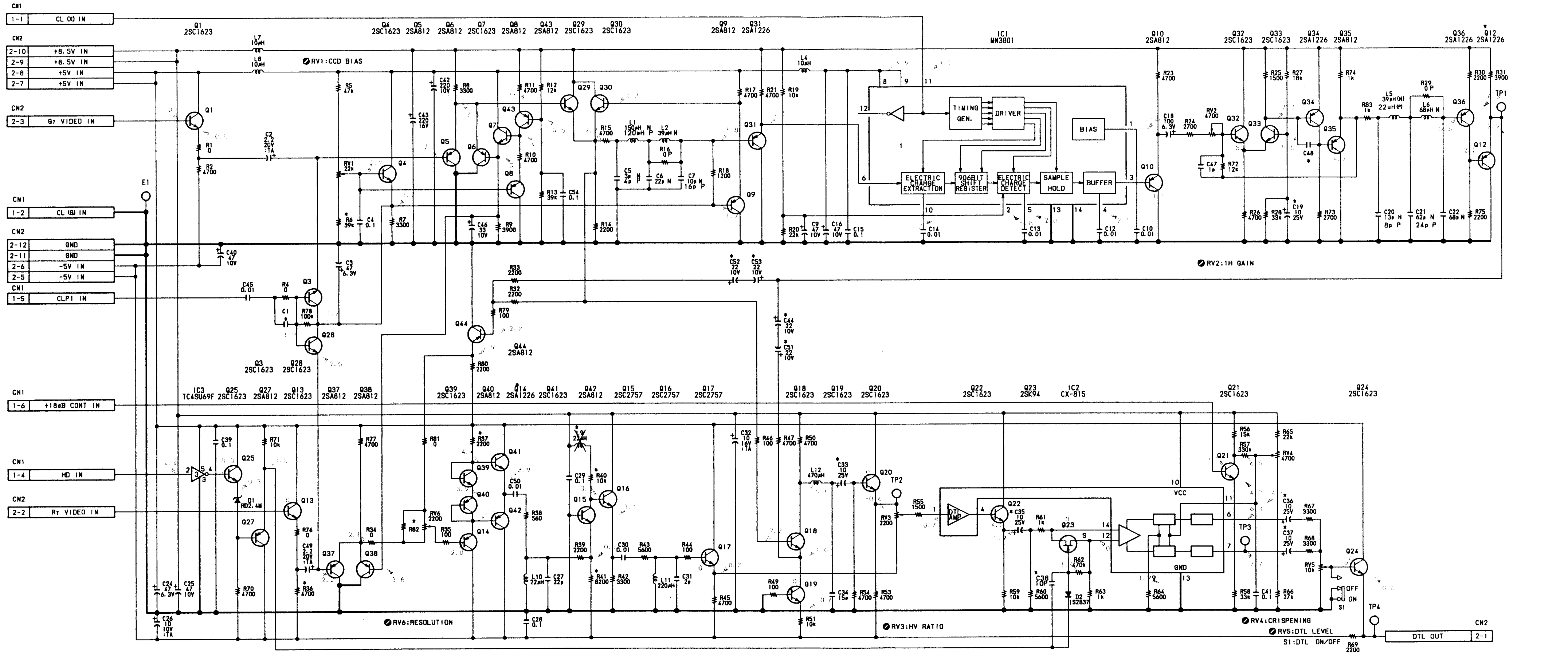
1-627-936-12 COMPONENT SIDE



1-627-936-12 SOLDERING SIDE

IE-23 (1-627-933-11,12)

CN1	E-1
CN2	A-1
D1	C-2
D2	A-3
E1	C-4
IC1	E-2
IC2	B-3
IC3	C-1
Q1	A-1
Q3	E-4
Q4	E-4
Q5	D-3
Q6	D-3
Q7	D-3
Q8	D-3
Q9	D-3
Q10	E-2
Q12	E-3
Q13	A-1
Q14	A-4
Q15	A-3
Q16	A-3
Q17	A-4
Q18	B-4
Q19	B-4
Q20	B-3
Q21	B-2
Q22	B-3
Q23	B-3
Q24	C-4
Q25	C-1
Q27	C-2
Q28	F-4
Q29	D-3
Q30	D-3
Q31	D-2
Q32	E-3
Q33	E-3
Q34	E-3
Q35	D-3
Q36	E-3
Q37	A-2
Q38	A-2
Q39	A-4
Q40	A-4
Q41	A-4
Q42	A-4
Q43	D-3
Q44	C-4
RV1	E-4
RV2	F-2
RV3	A-4
RV4	B-2
RV5	B-4
RV6	B-4
S1	C-4
TP1	E-3
TP2	A-4
TP3	B-3
TP4	C-4


CN1 1-1 CL (Φ) IN
CN2 2-10 +8.5V IN
2-9 +8.5V IN
2-8 +5V IN
2-7 +5V IN
CN2 2-3 B1 VIDEO IN
CN1 1-2 CL (Φ) IN
CN2 2-12 GND
2-11 GND
2-6 -5V IN
2-5 -5V IN
CN1 1-5 CLP1 IN
CN1 1-6 +18dB CONT IN
CN1 1-4 HD IN
CN2 2-2 R1 VIDEO IN
RV1:CCD BIAS
IC1 MN3801
TIMING GEN.
DRIVER
BIAS
ELECTRIC CHARGE EXTRACTION
90ABIT SHIFT REGISTER
ELECTRIC CHARGE DETECT
SAMPLE HOLD
BUFFER
RV2:1H GAIN
RV6:RESOLUTION
RV3:HV RATIO
IC2 CX-815
RV4:CRISPENING
RV5:DTL LEVEL
S1:DTL ON/OFF
TP1
TP2
TP3
TP4
DTL OUT CN2 2-1

IE-23 BOARD

* CHANGE INFORMATION

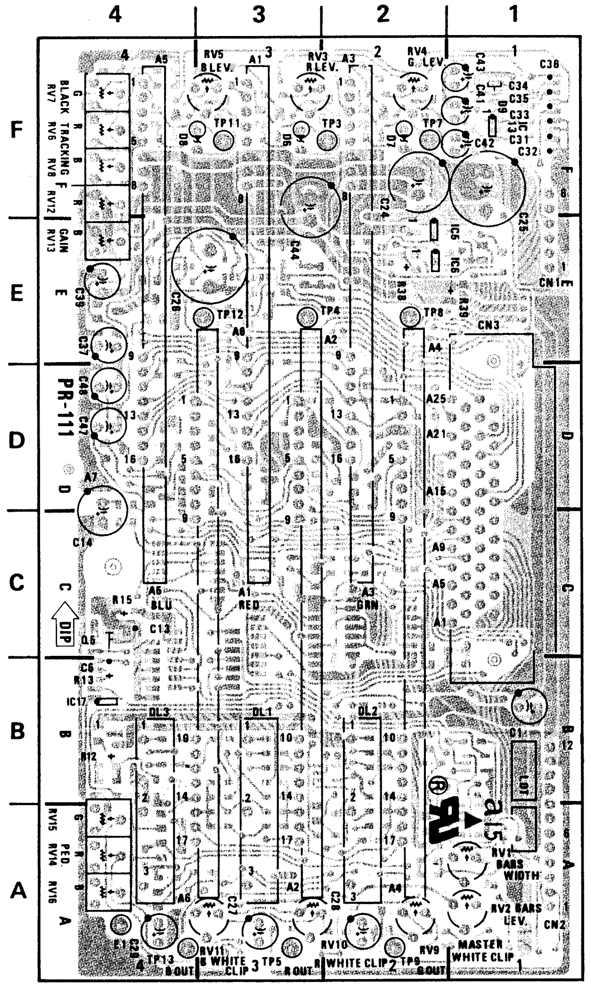
REF. NO	DESCRIPTION	EFECTIVE SER. NO
Q12	2SA812 → 2SA1226	10921 - (UC) 30611 - (J) 41521 - (EK)
R6 R36 R37 R40 R41 Q14	47K → 39K 1K → 4700 5600 → 2200 4700 → 10K 3300 → 8200 2SA812 → 2SA1226	11271 - (UC) 30811 - (J) 42081 - (EK)
L9	22UH → DELETE	
C19, C33 35, 36, 37	10MF/16V → 10MF/25V	
C44, 51 52, 53	22MF/6.3V → 22MF/10V	
C38	10P → ADD	

PR-111 BOARD

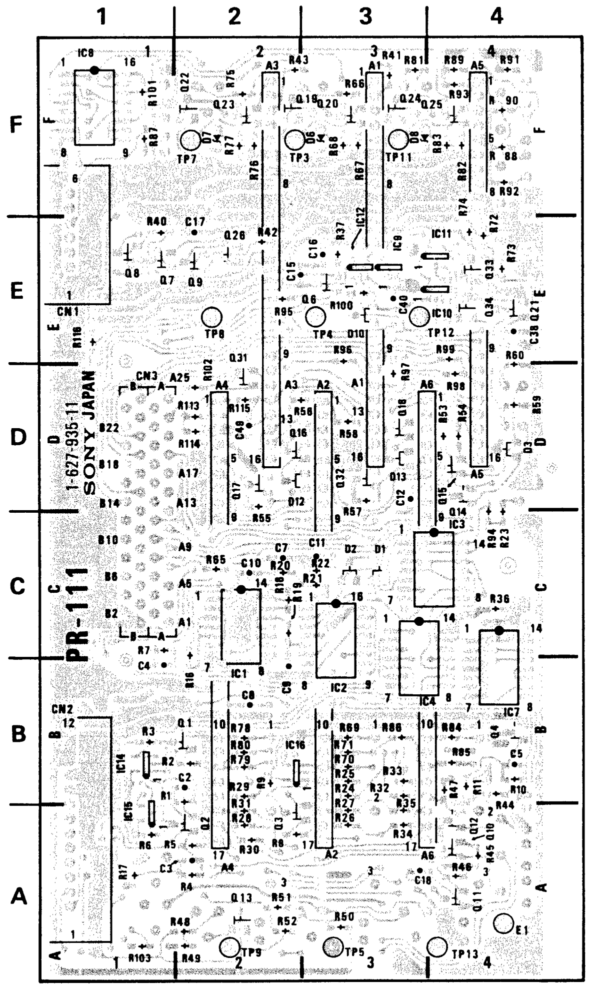
Ser.No.10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)

PR-111 (1-627-935-11,12)

CN1	E-1
CN2	A-1
CN3	D-1
D1	C-3
D2	C-3
D3	D-4
D6	F-3
D7	F-2
D8	F-3
D9	F-1
D10	E-3
D12	D-2
D13	D-3
DL1	A-3
DL2	A-2
DL3	A-4
E1	A-4
IC1	C-2
IC2	C-3
IC3	C-4
IC4	B-3
IC5	E-2
IC6	E-2
IC7	B-4
IC8	F-1
IC9	E-3
IC10	E-4
IC11	E-4
IC12	E-3
IC13	F-1
IC14	B-1
IC15	A-1
IC16	B-2
IC17	B-4
Q1	B-2
Q2	A-2
Q3	A-2
Q4	B-4
Q5	C-4
Q6	E-3
Q7	E-1
Q8	E-1
Q9	E-2
Q10	A-4
Q11	A-4
Q12	A-4
Q13	A-2
Q14	D-4
Q15	D-4
Q16	D-2
Q17	D-2
Q18	D-3
Q19	F-2
Q20	F-3
Q21	E-4
Q22	F-2
Q23	F-2
Q24	F-3
Q25	F-4
Q26	E-2
Q31	D-2
Q32	D-3
Q33	E-4
Q34	E-4
RV1	A-1
RV2	A-1
RV3	F-3
RV4	F-2
RV5	F-3
RV6	F-4
RV7	F-4
RV8	F-4
RV9	A-2
RV10	A-3
RV11	A-3
RV12	F-4
RV13	E-4
RV14	A-4
RV15	A-4
RV16	A-4
TP3	F-2
TP4	E-3
TP5	A-3
TP7	F-2
TP8	E-2
TP9	A-2
TP11	F-3
TP12	E-3
TP13	A-4


4
3
2
1
F
E
D
C
B
A
PR-111
RV5 B.LEV.
RV3 R.LEV.
RV4 G.LEV.
BLACK TRACKING
GAIN
BLU
RED
GRN
BARS WIDTH
BARS LEV.
MASTER WHITE CLIP
B WHITE CLIP
R WHITE CLIP
B OUT
R OUT
G OUT
CN1
CN2
CN3
TP3
TP4
TP5
TP7
TP8
TP9
TP11
TP12
TP13
DL1
DL2
DL3

1-627-935-11 COMPONENT SIDE


1
2
3
4
F
E
D
C
B
A
PR-111
1-627-935-11
SONY JAPAN
CN1
CN2
CN3
TP3
TP4
TP5
TP7
TP8
TP9
TP11
TP12
TP13

1-627-935-11 SOLDERING SIDE

PR-111 (1-627-935-11,12)

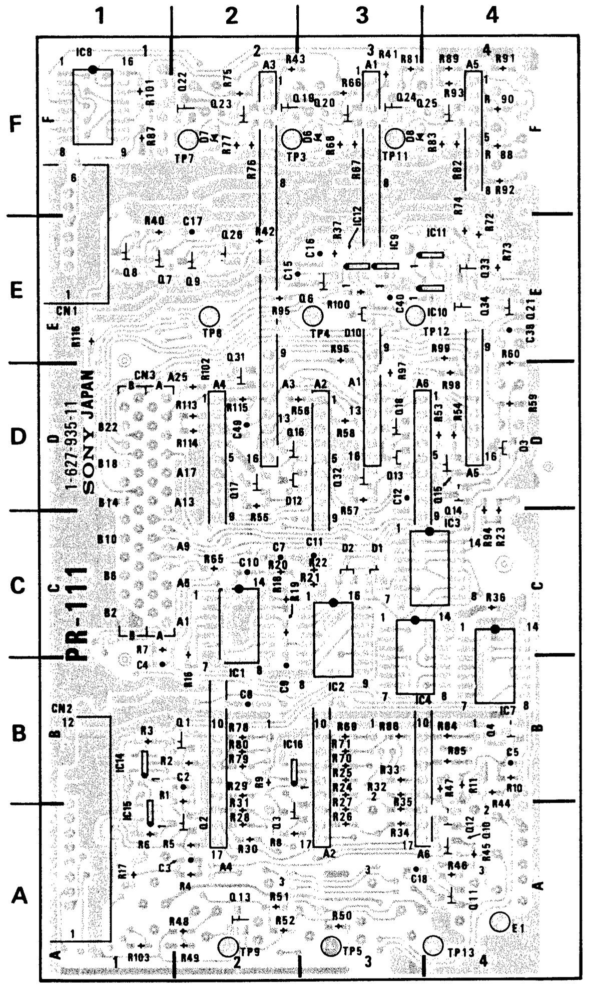
CN1	E-1
CN2	A-1
CN3	D-1
D1	C-3
D2	C-3
D3	D-4
D6	F-3
D7	F-2
D8	F-3
D9	F-1
D10	E-3
D12	D-2
D13	D-3
DL1	A-3
DL2	A-2
DL3	A-4
E1	A-4
IC1	C-2
IC2	C-3
IC3	C-4
IC4	B-3
IC5	E-2
IC6	E-2
IC7	B-4
IC8	F-1
IC9	E-3
IC10	E-4
IC11	E-4
IC12	E-3
IC13	F-1
IC14	B-1
IC15	A-1
IC16	B-2
IC17	B-4
Q1	B-2
Q2	A-2
Q3	A-2
Q4	B-4
Q5	C-4
Q6	E-3
Q7	E-1
Q8	E-1
Q9	E-2
Q10	A-4
Q11	A-4
Q12	A-4
Q13	A-2
Q14	D-4
Q15	D-4
Q16	D-2
Q17	D-2
Q18	D-3
Q19	F-2
Q20	F-3
Q21	E-4
Q22	F-2
Q23	F-2
Q24	F-3
Q25	F-4
Q26	E-2
Q31	D-2
Q32	D-3
Q33	E-4
Q34	E-4
RV1	A-1
RV2	A-1
RV3	F-3
RV4	F-2
RV5	F-3
RV6	F-4
RV7	F-4
RV8	F-4
RV9	A-2
RV10	A-3
RV11	A-3
RV12	F-4
RV13	E-4
RV14	A-4
RV15	A-4
RV16	A-4
TP3	F-2
TP4	E-3
TP5	A-3
TP7	F-2
TP8	E-2
TP9	A-2
TP11	F-3
TP12	E-3
TP13	A-4

VA-70

1-627-925-11

PR-109

1-627-925-11



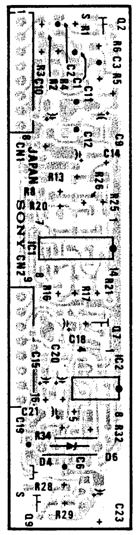
1-627-935-11 SOLDERING SIDE

PR-111 (1-627-935-11,12)

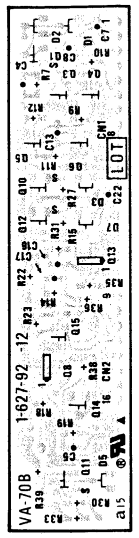
CN1	E-1
CN2	A-1
CN3	D-1
D1	C-3
D2	C-3
D3	D-4
D6	F-3
D7	F-2
D8	F-3
D9	F-1
D10	E-3
D12	D-2
D13	D-3
DL1	A-3
DL2	A-2
DL3	A-4
E1	A-4
IC1	C-2
IC2	C-3
IC3	C-4
IC4	B-3
IC5	E-2
IC6	E-2
IC7	B-4
IC8	F-1
IC9	E-3
IC10	E-4
IC11	E-4
IC12	E-3
IC13	F-1
IC14	B-1
IC15	A-1
IC16	B-2
IC17	B-4
Q1	B-2
Q2	A-2
Q3	A-2
Q4	B-4
Q5	C-4
Q6	E-3
Q7	E-1
Q8	E-1
Q9	E-2
Q10	A-4
Q11	A-4
Q12	A-4
Q13	A-2
Q14	D-4
Q15	D-4
Q16	D-2
Q17	D-2
Q18	D-3
Q19	F-2
Q20	F-3
Q21	E-4
Q22	F-2
Q23	F-2
Q24	F-3
Q25	F-4
Q26	E-2
Q31	D-2
Q32	D-3
Q33	E-4
Q34	E-4
RV1	A-1
RV2	A-1
RV3	F-3
RV4	F-2
RV5	F-3
RV6	F-4
RV7	F-4
RV8	F-4
RV9	A-2
RV10	A-3
RV11	A-3
RV12	F-4
RV13	E-4
RV14	A-4
RV15	A-4
RV16	A-4
TP3	F-2
TP4	E-3
TP5	A-3
TP7	F-2
TP8	E-2
TP9	A-2
TP11	F-3
TP12	E-3
TP13	A-4

VA-70 BOARD

Ser.No.10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)



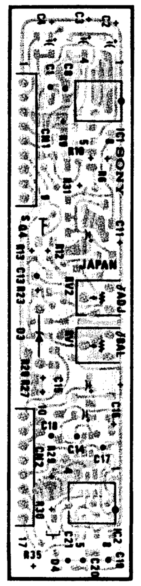
1-627-925-11 COMPONENT SIDE



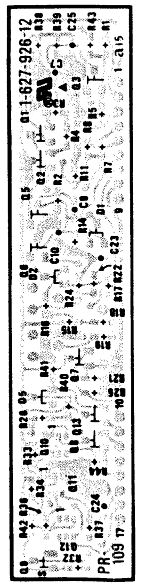
1-627-925-11 SOLDERING SIDE

PR-109 BOARD

Ser.No.10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)



1-627-926-11 COMPONENT SIDE



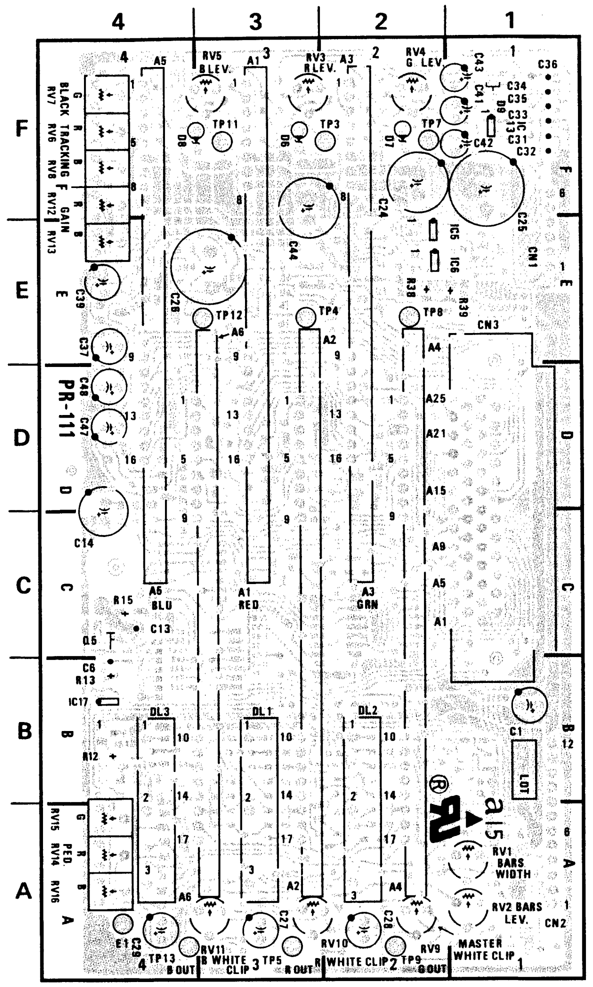
1-627-926-11 SOLDERING SIDE

PR-111 BOARD

Ser.No.11271-	(UC)
30811-	(J)
42081-	(EK)

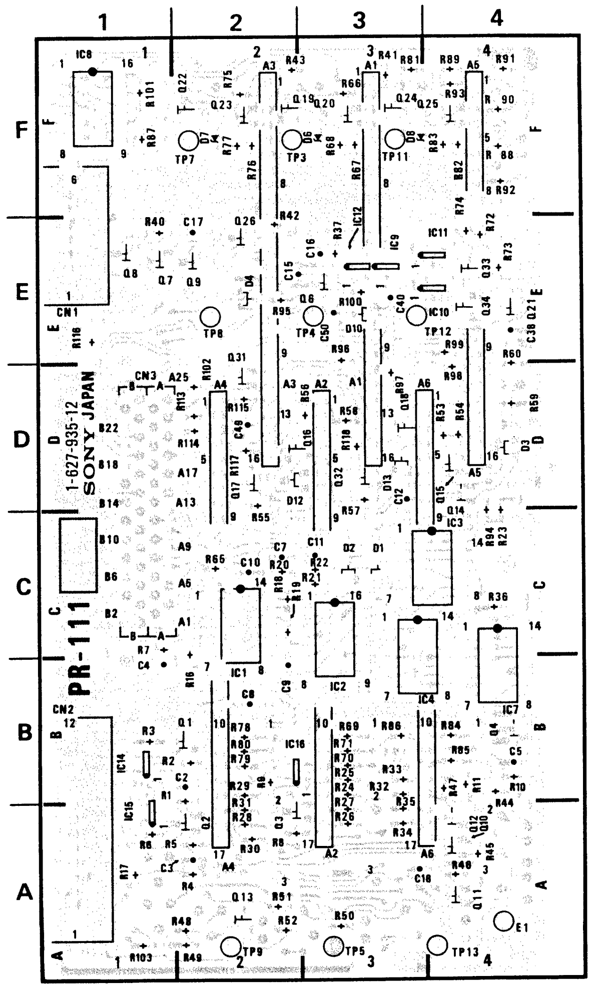
PR-111 (1-627-935-11,12)

CN1	E-1
CN2	A-1
CN3	D-1
D1	C-3
D2	C-3
D3	D-4
D6	F-3
D7	F-2
D8	F-3
D9	F-1
D10	E-3
D12	D-2
D13	D-3
DL1	A-3
DL2	A-2
DL3	A-4
E1	A-4
IC1	C-2
IC2	C-3
IC3	C-4
IC4	B-3
IC5	E-2
IC6	E-2
IC7	B-4
IC8	F-1
IC9	E-3
IC10	E-4
IC11	E-4
IC12	E-3
IC13	F-1
IC14	B-1
IC15	A-1
IC16	B-2
IC17	B-4
Q1	B-2
Q2	A-2
Q3	A-2
Q4	B-4
Q5	C-4
Q6	E-3
Q7	E-1
Q8	E-1
Q9	E-2
Q10	A-4
Q11	A-4
Q12	A-4
Q13	A-2
Q14	D-4
Q15	D-4
Q16	D-2
Q17	D-2
Q18	D-3
Q19	F-2
Q20	F-3
Q21	E-4
Q22	F-2
Q23	F-2
Q24	F-3
Q25	F-4
Q26	E-2
Q31	D-2
Q32	D-3
Q33	E-4
Q34	E-4
RV1	A-1
RV2	A-1
RV3	F-3
RV4	F-2
RV5	F-3
RV6	F-4
RV7	F-4
RV8	F-4
RV9	A-2
RV10	A-3
RV11	A-3
RV12	F-4
RV13	E-4
RV14	A-4
RV15	A-4
RV16	A-4
TP3	F-2
TP4	E-3
TP5	A-3
TP7	F-2
TP8	E-2
TP9	A-2
TP11	F-3
TP12	E-3
TP13	A-4



4
3
2
1
F
E
D
C
B
A
PR-111
RV5 B.LEV.
RV3 R.LEV.
RV4 G LEV.
BLACK TRACKING
GAIN
TP11
TP3
TP7
TP12
TP4
TP8
CN1
CN3
BLU
RED
GRN
DL3
DL1
DL2
LOT
RV1 BARS WIDTH
RV2 BARS LEV.
CN2
RV9 MASTER WHITE CLIP
RV11 B WHITE CLIP
RV10 R WHITE CLIP
TP13
TP5
TP9
B OUT
R OUT
G OUT
E1

1-627-935-12 COMPONENT SIDE

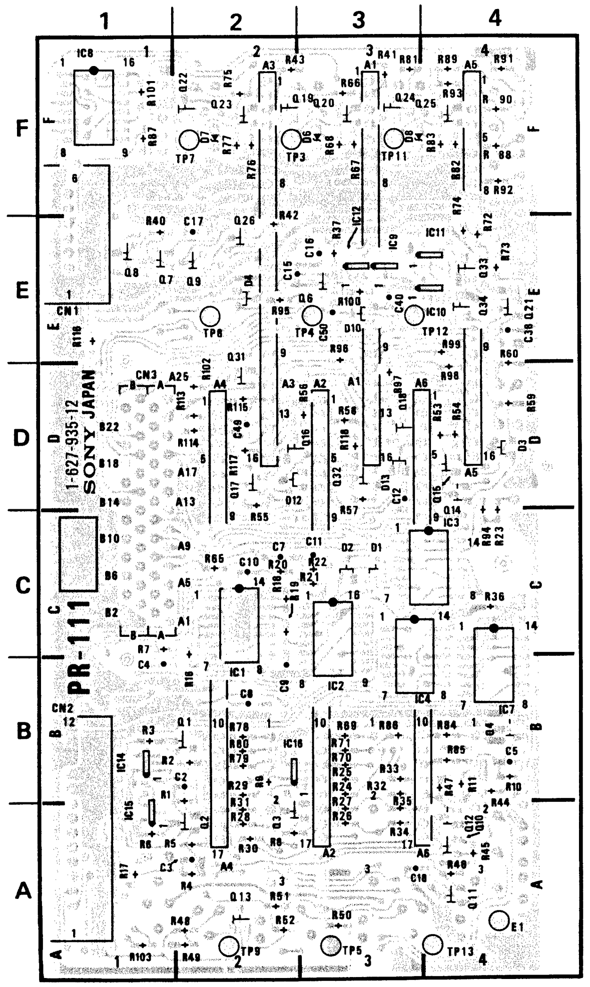


1
2
3
4
F
E
D
C
B
A
PR-111
1-627-935-12
SONY JAPAN
CN1
CN2
CN3
TP3
TP7
TP8
TP11
TP4
TP12
TP9
TP5
TP13
IC1
IC2
IC3
IC4
IC7
IC8
IC9
IC10
IC11
IC12
IC14
IC15
IC16
E1

1-627-935-12 SOLDERING SIDE

PR-111 (1-627-935-11,12)

CN1	E-1
CN2	A-1
CN3	D-1
D1	C-3
D2	C-3
D3	D-4
D6	F-3
D7	F-2
D8	F-3
D9	F-1
D10	E-3
D12	D-2
D13	D-3
DL1	A-3
DL2	A-2
DL3	A-4
E1	A-4
IC1	C-2
IC2	C-3
IC3	C-4
IC4	B-3
IC5	E-2
IC6	E-2
IC7	B-4
IC8	F-1
IC9	E-3
IC10	E-4
IC11	E-4
IC12	E-3
IC13	F-1
IC14	B-1
IC15	A-1
IC16	B-2
IC17	B-4
Q1	B-2
Q2	A-2
Q3	A-2
Q4	B-4
Q5	C-4
Q6	E-3
Q7	E-1
Q8	E-1
Q9	E-2
Q10	A-4
Q11	A-4
Q12	A-4
Q13	A-2
Q14	D-4
Q15	D-4
Q16	D-2
Q17	D-2
Q18	D-3
Q19	F-2
Q20	F-3
Q21	E-4
Q22	F-2
Q23	F-2
Q24	F-3
Q25	F-4
Q26	E-2
Q31	D-2
Q32	D-3
Q33	E-4
Q34	E-4
RV1	A-1
RV2	A-1
RV3	F-3
RV4	F-2
RV5	F-3
RV6	F-4
RV7	F-4
RV8	F-4
RV9	A-2
RV10	A-3
RV11	A-3
RV12	F-4
RV13	E-4
RV14	A-4
RV15	A-4
RV16	A-4
TP3	F-2
TP4	E-3
TP5	A-3
TP7	F-2
TP8	E-2
TP9	A-2
TP11	F-3
TP12	E-3
TP13	A-4



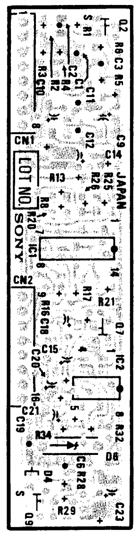
1-627-935-12 SOLDERING SIDE

PR-111 (1-627-935-11,12)

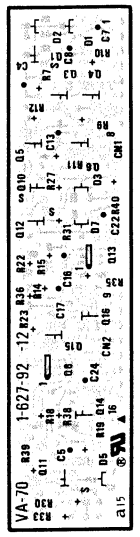
CN1	E-1
CN2	A-1
CN3	D-1
D1	C-3
D2	C-3
D3	D-4
D6	F-3
D7	F-2
D8	F-3
D9	F-1
D10	E-3
D12	D-2
D13	D-3
DL1	A-3
DL2	A-2
DL3	A-4
E1	A-4
IC1	C-2
IC2	C-3
IC3	C-4
IC4	B-3
IC5	E-2
IC6	E-2
IC7	B-4
IC8	F-1
IC9	E-3
IC10	E-4
IC11	E-4
IC12	E-3
IC13	F-1
IC14	B-1
IC15	A-1
IC16	B-2
IC17	B-4
Q1	B-2
Q2	A-2
Q3	A-2
Q4	B-4
Q5	C-4
Q6	E-3
Q7	E-1
Q8	E-1
Q9	E-2
Q10	A-4
Q11	A-4
Q12	A-4
Q13	A-2
Q14	D-4
Q15	D-4
Q16	D-2
Q17	D-2
Q18	D-3
Q19	F-2
Q20	F-3
Q21	E-4
Q22	F-2
Q23	F-2
Q24	F-3
Q25	F-4
Q26	E-2
Q31	D-2
Q32	D-3
Q33	E-4
Q34	E-4
RV1	A-1
RV2	A-1
RV3	F-3
RV4	F-2
RV5	F-3
RV6	F-4
RV7	F-4
RV8	F-4
RV9	A-2
RV10	A-3
RV11	A-3
RV12	F-4
RV13	E-4
RV14	A-4
RV15	A-4
RV16	A-4
TP3	F-2
TP4	E-3
TP5	A-3
TP7	F-2
TP8	E-2
TP9	A-2
TP11	F-3
TP12	E-3
TP13	A-4

VA-70 BOARD

Ser.NO.	11271-12090	(UC)
	30811-30980	(J)
	42081-42850	(EK)



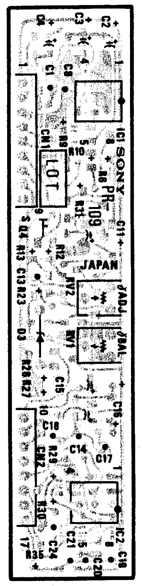
1-627-925-12 COMPONENT SIDE



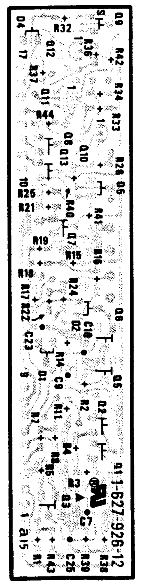
1-627-925-12 SOLDERING SIDE

PR-109 BOARD

Ser.No.	11271-	(UC)
	30811-	(J)
	42081-	(EK)

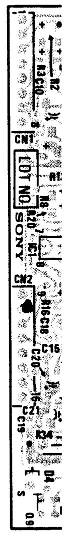


1-627-926-12 COMPONENT SIDE



1-627-926-12 SOLDERING SIDE

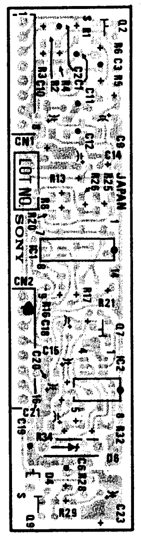
VA-70 BO


CN1
LOT NO
SONY
CN2

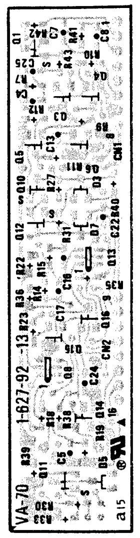
1-627-925-13

VA-70 BOARD

Ser.NO.12091- (UC)
30981- (J)
42851- (EK)



1-627-925-13 COMPONENT SIDE



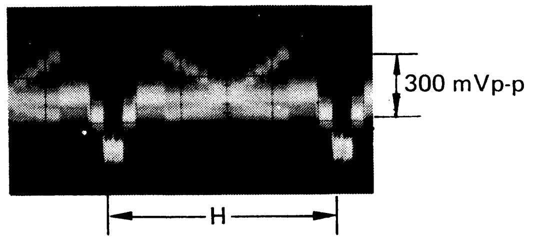
1-627-925-13 SOLDERING SIDE

PR-111

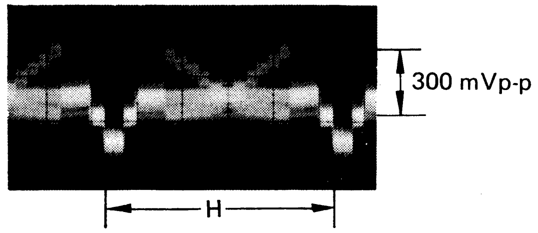
NOTE:

1. All voltage are dc, measured with a digital voltmeter. (input impedance: 10MΩ)
2. All waveforms are taken and DC voltage is measured in condition below.
   - . Set camera FILTER selector to 1 position.
   - . Set camera GAIN selector to 0dB position.
   - . Shoot the grayscale pattern on the pattern box. Adjust lens iris so that a white level is 100IRE (For NTSC) or 700mV (For PAL) using the waveform monitor.

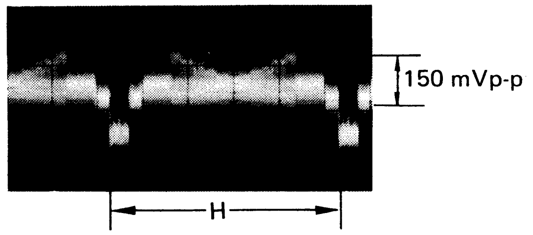
TP3



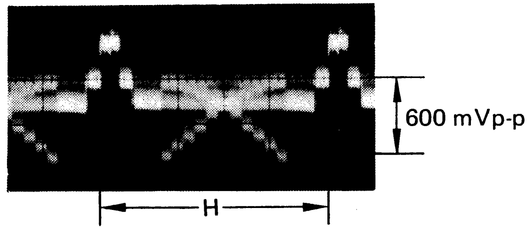
TP7



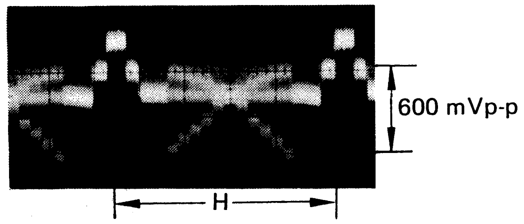
TP11



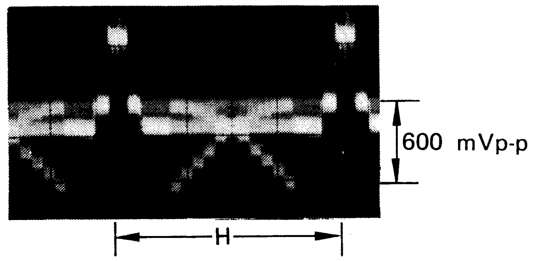
TP4



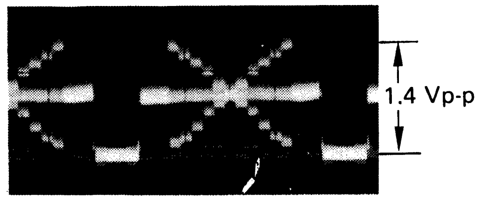
TP8



TP12

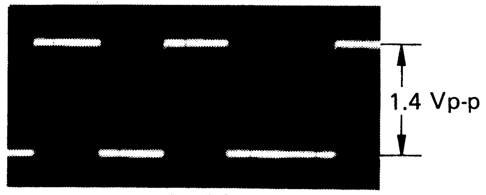


TP5



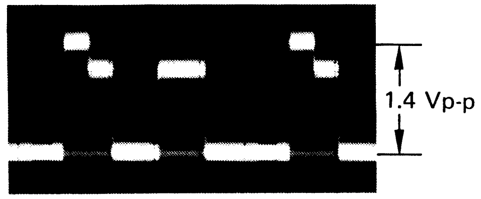
BARS WB: 3200°K

TP5 BARS (For NTSC)



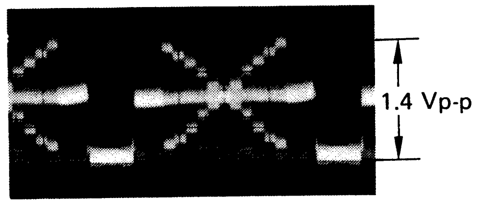
BARS WB: BARS

TP5 BARS (For PAL)



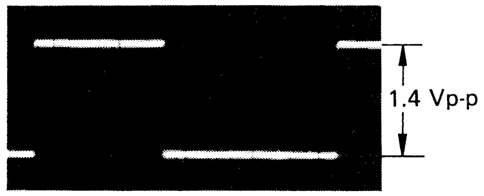
BARS WB: BARS

TP9



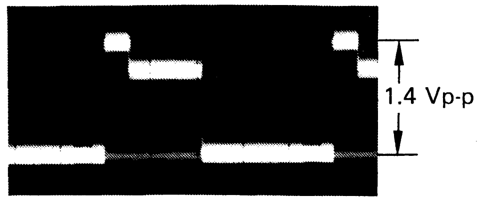
BARS WB: 3200°K

TP9 BARS (For NTSC)



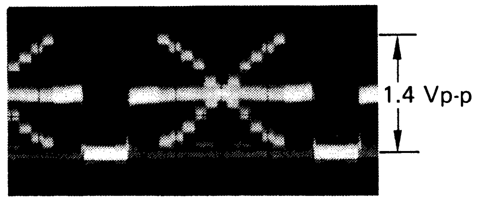
BARS WB: BARS

TP9 BARS (For PAL)



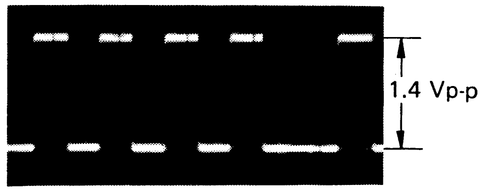
BARS WB: BARS

TP13



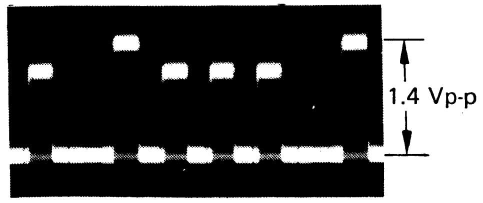
BARS WB: 3200°K

TP13 BARS (For NTSC)

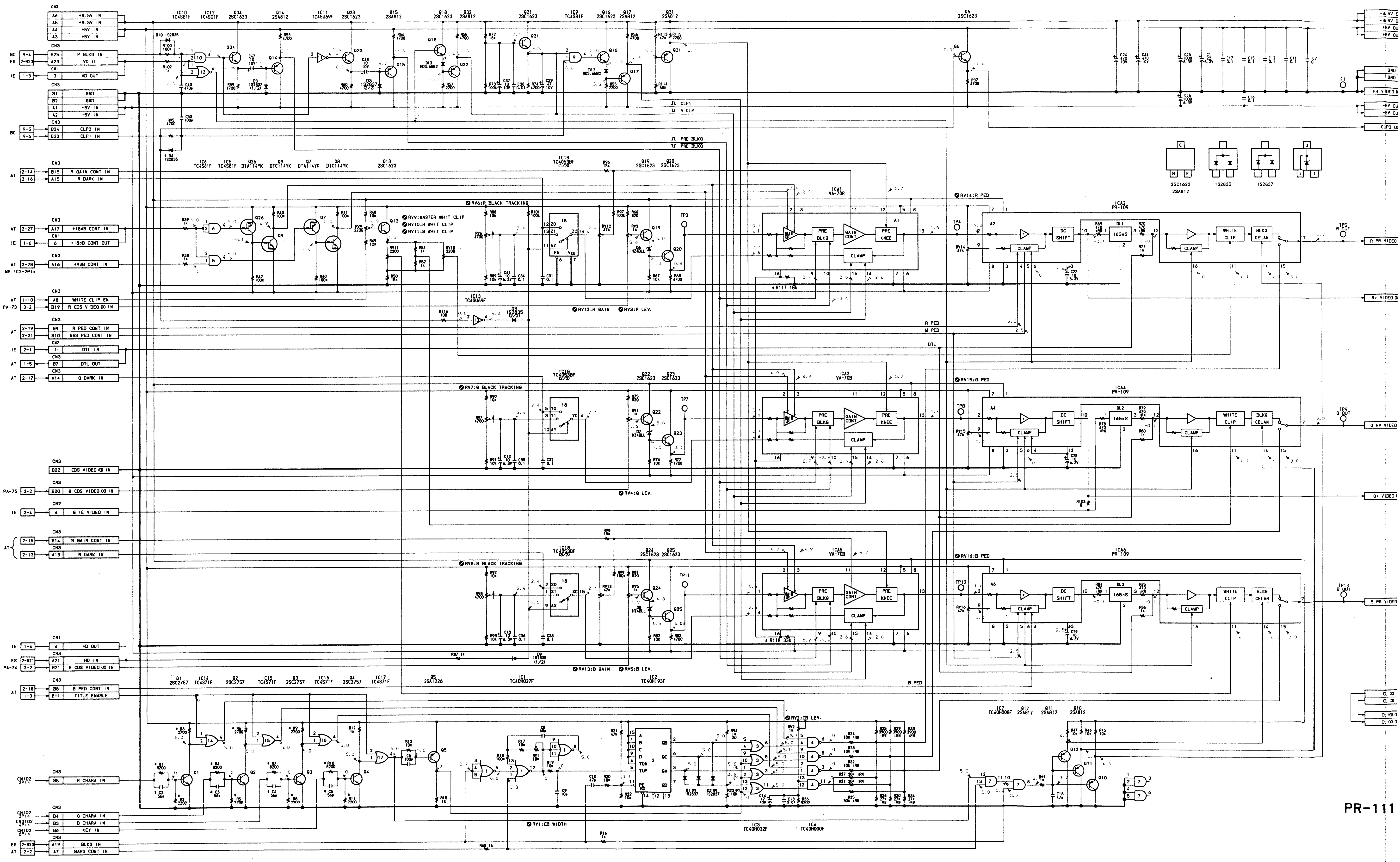


BARS WB: BARS

TP13 BARS (For PAL)

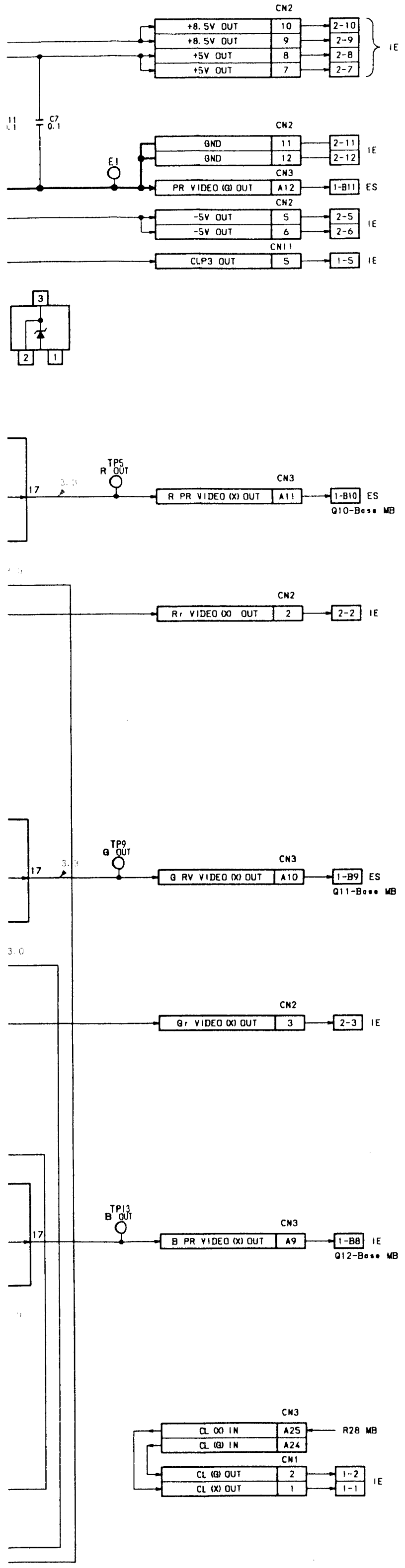


BARS WB: BARS

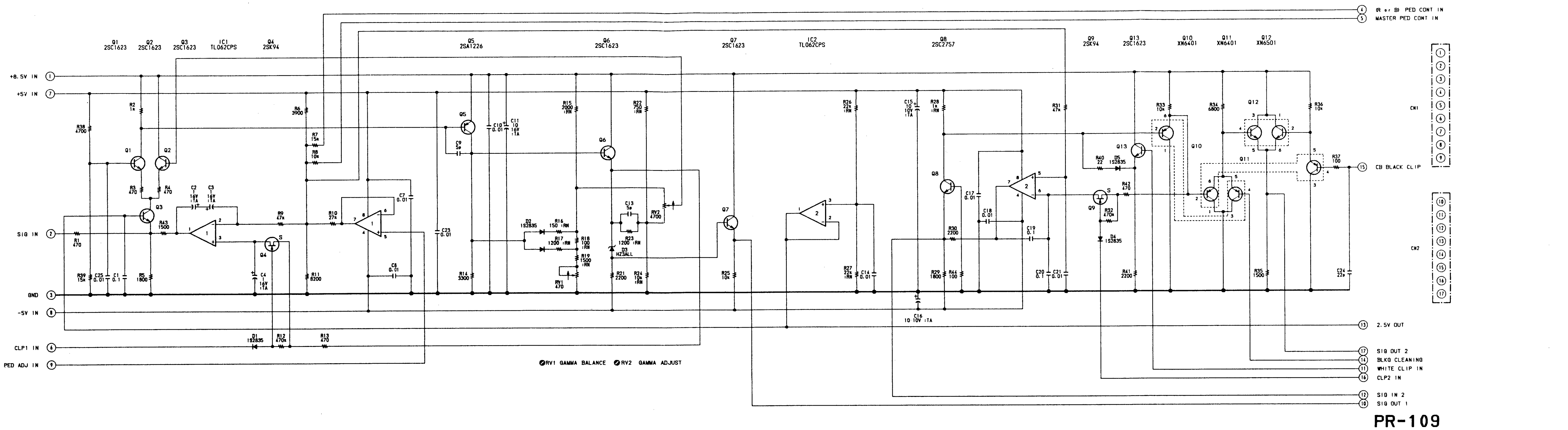

CN3
A6 +8.5V IN
A5 +8.5V IN
A4 +5V IN
A3 +5V IN
B25 P BLKG IN
A23 VD II
3 VD OUT
B1 GND
B2 GND
A1 -5V IN
A2 -5V IN
B24 CLP3 IN
B23 CLP1 IN
B15 R GAIN CONT IN
A15 R DARK IN
A17 +18dB CONT IN
6 +18dB CONT OUT
A16 +9dB CONT IN
A8 WHITE CLIP EN
B19 R CDS VIDEO 00 IN
B9 R PED CONT IN
B10 MAS PED CONT IN
1 DTL IN
B7 DTL OUT
A14 G DARK IN
B22 CDS VIDEO IN
B20 G CDS VIDEO 00 IN
4 G IE VIDEO IN
B14 B GAIN CONT IN
A13 B DARK IN
4 HD OUT
A21 HD IN
B21 B CDS VIDEO 00 IN
B8 B PED CONT IN
B11 TITLE ENABLE
B5 R CHARA IN
B4 G CHARA IN
B3 B CHARA IN
B6 KEY IN
A19 BLKG IN
A7 BARS CONT IN
RV9:MASTER WHIT CLIP
RV10:R WHIT CLIP
RV11:B WHIT CLIP
RV6:R BLACK TRACKING
RV12:R GAIN
RV3:R LEV.
RV7:G BLACK TRACKING
RV4:G LEV.
RV8:B BLACK TRACKING
RV13:B GAIN
RV5:B LEV.
RV1:CB WIDTH
RV2:CB LEV.
RV14:R PED
RV15:G PED
RV16:B PED
ICA1 VA-70R
ICA3 VA-70B
ICA5 VA-70B
ICA2 PR-109
ICA4 PR-109
ICA6 PR-109
PRE BLKG
GAIN CONT
PRE KNEE
CLAMP
DC SHIFT
165nS
WHITE CLIP
BLKG CELAN
CLP1
V CLP
PRE BLKG
R PED
M PED
DTL
B PED
TP5 R OUT
TP9 G OUT
TP13 B OUT
R PR VIDEO
G RV VIDEO
B PR VIDEO
2SC1623
2SA812
1S2835
1S2837

PR-111

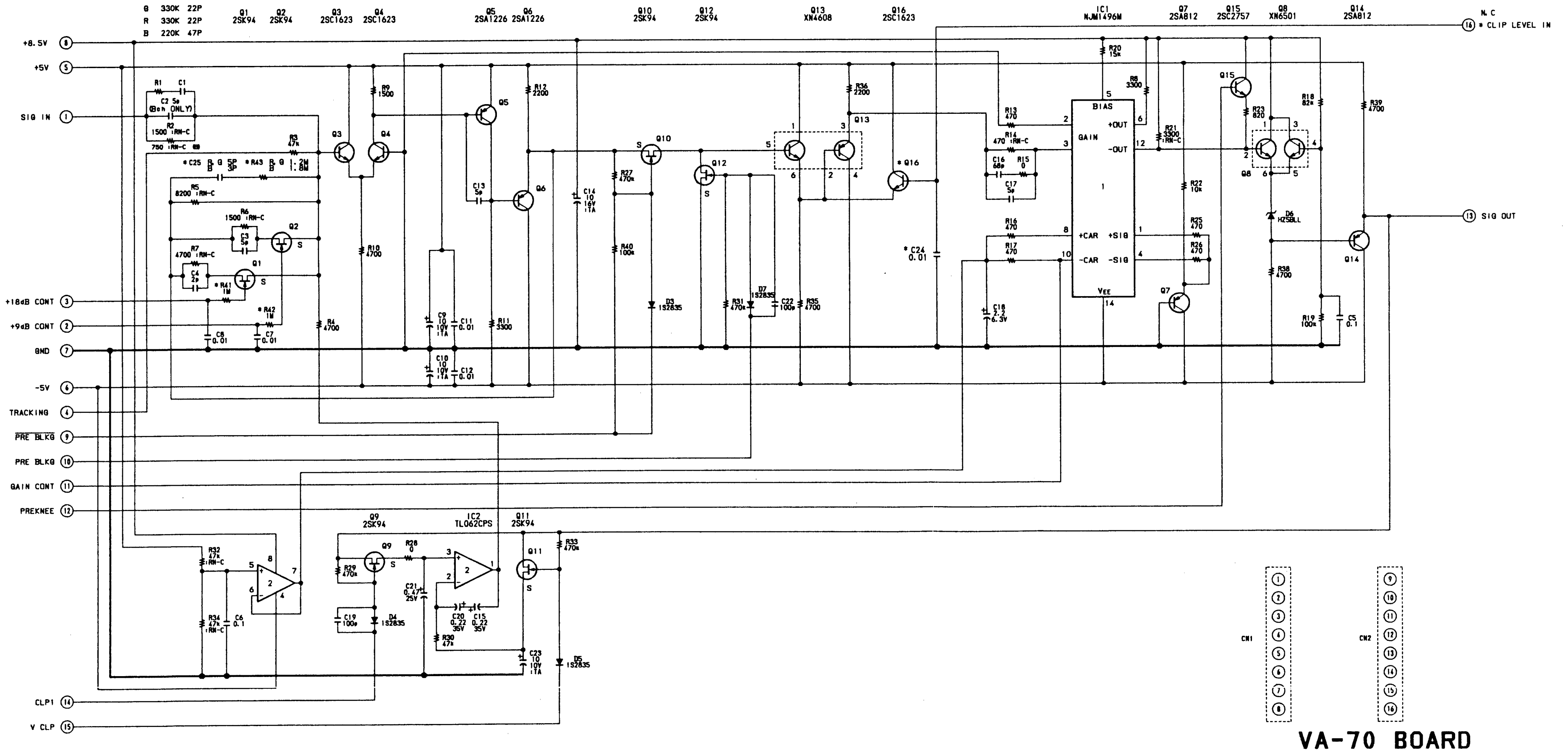
DXC-325 (J, UC)
DXC-325P (EK)


CN2
+8.5V OUT 10 2-10
+8.5V OUT 9 2-9
+5V OUT 8 2-8
+5V OUT 7 2-7
IE
GND 11 2-11
GND 12 2-12
CN3
PR VIDEO (X) OUT A12 1-B11 ES
-5V OUT 5 2-5
-5V OUT 6 2-6
CN11
CLP3 OUT 5 1-5
TP5 R OUT
R PR VIDEO (X) OUT A11 1-B10 ES
Q10-Base MB
R/ VIDEO (X) OUT 2 2-2 IE
TP9 G OUT
G PR VIDEO (X) OUT A10 1-B9 ES
Q11-Base MB
G/ VIDEO (X) OUT 3 2-3 IE
TP13 B OUT
B PR VIDEO (X) OUT A9 1-B8 IE
Q12-Base MB
CL (X) IN A25
CL (G) IN A24
R28 MB
CN1
CL (G) OUT 2 1-2
CL (X) OUT 1 1-1
IE

PR-111 BOARD


Q1 2SC1623
Q2 2SC1623
Q3 2SC1623
IC1 TL062CPS
Q4 2SK94
Q5 2SA1226
Q6 2SC1623
Q7 2SC1623
IC2 TL062CPS
Q8 2SC2757
Q9 2SK94
Q13 2SC1623
Q10 XN6401
Q11 XN6401
Q12 XN6501
+8.5V IN ①
+5V IN ⑦
SIG IN ②
GND ③
-5V IN ⑧
CLP1 IN ④
PED ADJ IN ⑨
④ (R or B) PED CONT IN
⑤ MASTER PED CONT IN
⑮ CB BLACK CLIP
⑬ 2.5V OUT
⑰ SIG OUT 2
⑭ BLKG CLEANING
⑪ WHITE CLIP IN
⑯ CLP2 IN
⑫ SIG IN 2
⑩ SIG OUT 1
RV1 GAMMA BALANCE
RV2 GAMMA ADJUST
CN1
CN2

PR-109


*R1 *C1
R 330K 22P
G 330K 22P
B 220K 47P
Q1 2SK94
Q2 2SK94
Q3 2SC1623
Q4 2SC1623
Q5 2SA1226
Q6 2SA1226
Q10 2SK94
Q12 2SK94
Q13 XN4608
Q16 2SC1623
IC1 NJM1496M
Q7 2SA812
Q15 2SC2757
Q8 XN6501
Q14 2SA812
+8.5V ⑧
+5V ⑤
SIG IN ①
+18dB CONT ③
+9dB CONT ②
GND ⑦
-5V ⑥
TRACKING ④
PRE BLKG ⑨
PRE BLKG ⑩
GAIN CONT ⑪
PREKNEE ⑫
CLP1 ⑭
V CLP ⑮
N.C
⑯ * CLIP LEVEL IN
⑬ SIG OUT
Q9 2SK94
IC2 TL062CPS
Q11 2SK94
BIAS
GAIN
+OUT
-OUT
+CAR
-CAR
+SIG
-SIG
VEE
CN1
CN2

VA-70 BOARD

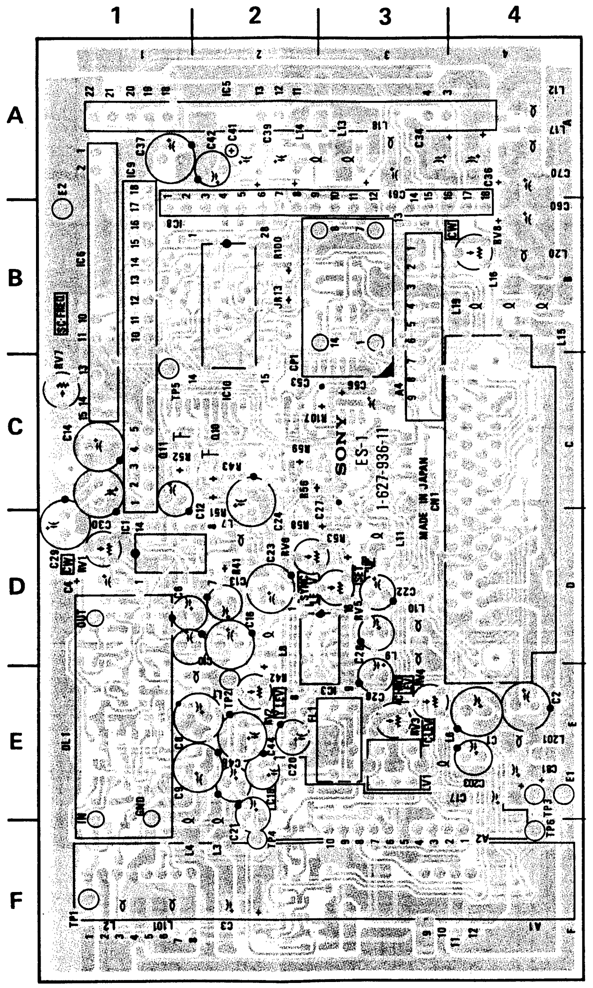
*NOTE

BOARD	REF No	CHANGE INFORMATION	SER No
PR-111	C2, 3, 4, 5	100P → 56P	10921 and higher (UC) 30611 and higher (J) 41521 and higher (EK)
	R1, 4, 7, 10	10K → 8200	
	R2, 5, 8, 11	47K → 2200	
	R3, 6, 9	3300 → 2700	
	R117	18K	11271 and higher (UC) 30811 and higher (J) 42081 and higher (EK)
	R118	33K	
	D4	1S1555 → 1S2835	
VA-70	C1	R, Gch 5P → 22P Bch 22P → 47P	10921 and higher (UC) 30611 and higher (J) 42081 and higher (EK)
	R1	Rch 470K → 330K Gch 680K → 330K	
	R41 R42	D1, D2 → R41, 42 1S2835 → 1M	
	C25 R43	ADD	
	C24 Q16	ADD	11271 and higher (UC) 30811 and higher (J) 42081 and higher (EK)

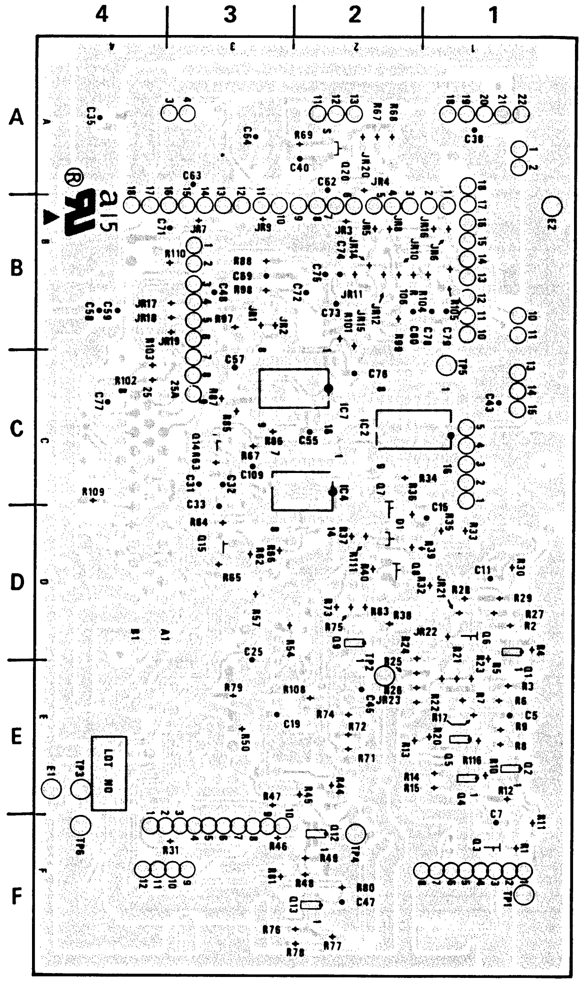
ES-1 BOARD

Ser.No.10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)

ES-1 (1-627-936-11)	
CN1	D-4
CP1	B-3
D1	D-2
DL1	E-1
E1	E-4
E2	B-1
FL1	E-4
IC1	D-1
IC2	C-2
IC3	D-3
IC4	C-2
IC5	A-2
IC6	B-1
IC7	C-2
IC8	B-2
IC9	B-1
IC10	B-2
LV1	E-3
Q1	D-1
Q2	E-1
Q3	F-1
Q4	E-1
Q5	E-1
Q6	D-1
Q7	D-2
Q8	D-2
Q9	D-2
Q10	C-2
Q11	C-1
Q12	F-2
Q13	F-2
Q14	C-3
Q15	D-3
Q20	A-2
RV1	D-1
RV2	E-2
RV3	E-3
RV4	E-3
RV5	D-3
RV6	D-2
RV7	C-1
RV8	B-4
TP1	F-1
TP2	E-2
TP3	E-4
TP5	C-1
TP6	F-4



1-627-936-11 COMPONENT SIDE

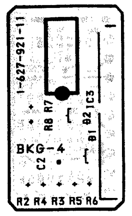

4
3
2
1
A
B
C
D
E
F
IC1
IC2
IC4
LOT NO

1-627-936-11 SOLDERING SIDE

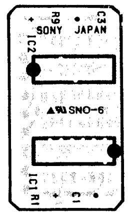
ES-1 (1-627-936-11)

CN1	D-4
CP1	B-3
D1	D-2
DL1	E-1
E1	E-4
E2	B-1
FL1	E-4
IC1	D-1
IC2	C-2
IC3	D-3
IC4	C-2
IC5	A-2
IC6	B-1
IC7	C-2
IC8	B-2
IC9	B-1
IC10	B-2
LV1	E-3
Q1	D-1
Q2	E-1
Q3	F-1
Q4	E-1
Q5	E-1
Q6	D-1
Q7	D-2
Q8	D-2
Q9	D-2
Q10	C-2
Q11	C-1
Q12	F-2
Q13	F-2
Q14	C-3
Q15	D-3
Q20	A-2
RV1	D-1
RV2	E-2
RV3	E-3
RV4	E-3
RV5	D-3
RV6	D-2
RV7	C-1
RV8	B-4
TP1	F-1
TP2	E-2
TP3	E-4
TP5	C-1
TP6	F-4

BKG-4 BOARD (NTSC ONLY)


1-627-921-11
BKG-4
R2 R4 R3 R5 R6

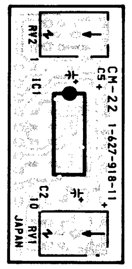
1-627-921-11 COMPONENT SIDE


SONY JAPAN
SNO-6
IC1

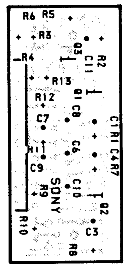
1-627-921-11 SOLDERING SIDE

CM-22 BOARD

Ser.No. 10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)


CM-22
1-627-918-11
IC1
RV1
RV2
JAPAN

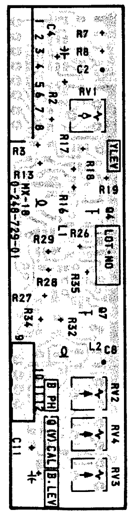
1-627-918-11 COMPONENT SIDE



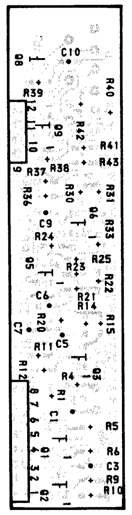
1-627-918-11 SOLDERING SIDE

MX-18 BOARD

Ser.No. 10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)


MX-18
LOT NO
RV1
RV2
RV3
RV4

1-627-919-11 COMPONENT SIDE



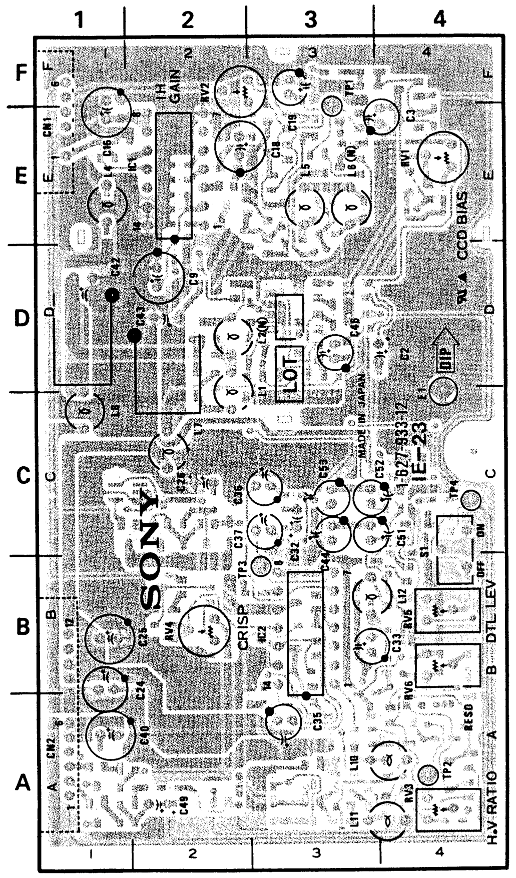
1-627-919-11 SOLDERING SIDE

ES-1 BOARD

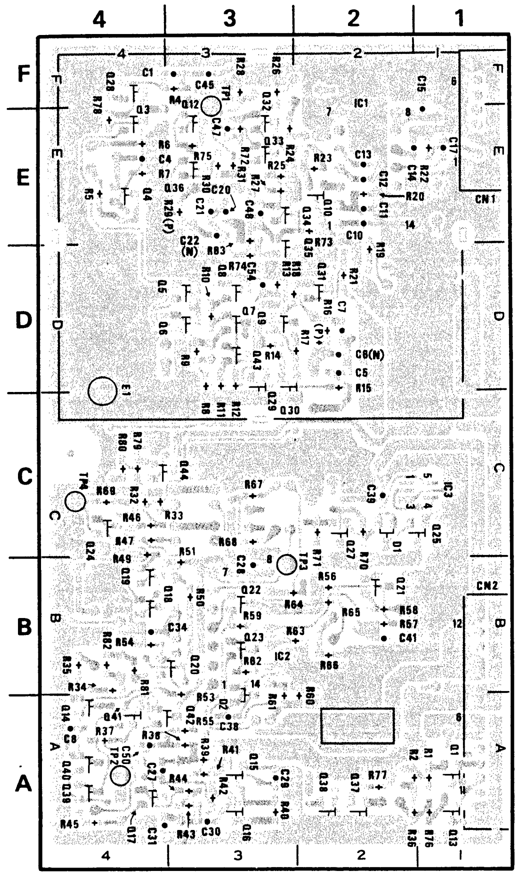
Ser.No.	
11271-	(UC)
30811-	(J)
42081-	(EK)

ES-1 (1-627-936-12)

CN1	E-1
CP1	B-3
D1	D-2
DL1	E-1
E1	E-4
E2	B-1
FL1	E-4
IC1	D-1
IC2	C-2
IC3	D-3
IC4	C-2
IC5	A-2
IC6	B-1
IC7	C-2
IC8	B-2
IC9	B-1
IC10	B-2
LV1	E-3
Q1	D-1
Q2	E-1
Q3	F-1
Q4	E-1
Q5	E-1
Q6	D-1
Q7	D-2
Q8	D-2
Q9	D-2
Q10	C-2
Q11	C-1
Q12	F-2
Q13	F-2
Q14	C-3
Q15	D-3
Q20	A-2
RV1	D-1
RV2	E-2
RV3	E-3
RV4	F-3
RV5	D-3
RV6	D-2
RV7	C-1
RV8	B-4
TP1	F-3
TP2	A-4
TP3	B-3
TP4	C-4
TP5	C-1
TP6	F-4


1
2
3
4
F
E
D
C
B
A
GAIN
CCD BIAS
LOT
DIP
SONY
MADE IN JAPAN
1-627-933-12
IE-23
CRISP
DTL LEV
H.V RATIO

1-627-933-12 COMPONENT SIDE


4
3
2
1
F
E
D
C
B
A
CN1
CN2
IC1
IC2

1-627-933-12 SOLDERING SIDE

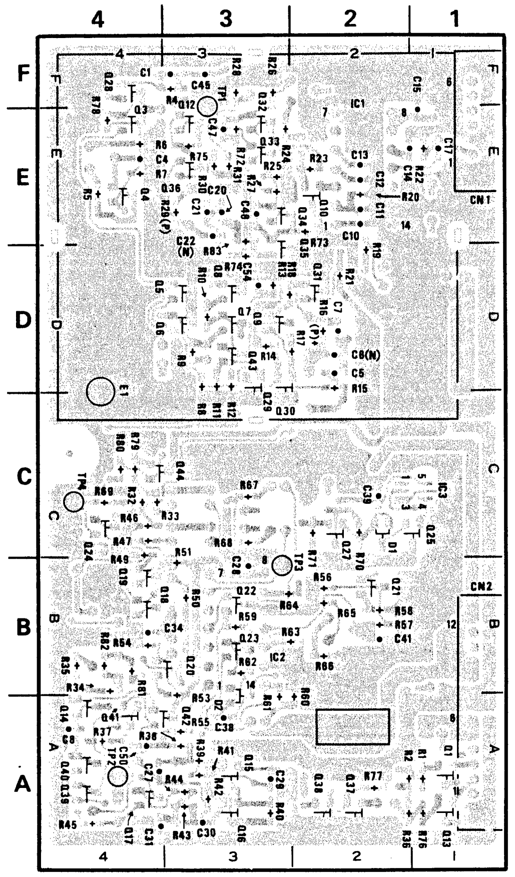
ES-1 (1-627-936-12)

CN1	E-1
CP1	B-3
D1	D-2
DL1	E-1
E1	E-4
E2	B-1
FL1	E-4
IC1	D-1
IC2	C-2
IC3	D-3
IC4	C-2
IC5	A-2
IC6	B-1
IC7	C-2
IC8	B-2
IC9	B-1
IC10	B-2
LV1	E-3
Q1	D-1
Q2	E-1
Q3	F-1
Q4	E-1
Q5	E-1
Q6	D-1
Q7	D-2
Q8	D-2
Q9	D-2
Q10	C-2
Q11	C-1
Q12	F-2
Q13	F-2
Q14	C-3
Q15	D-3
Q20	A-2
RV1	D-1
RV2	E-2
RV3	E-3
RV4	F-3
RV5	D-3
RV6	D-2
RV7	C-1
RV8	B-4
TP1	F-3
TP2	A-4
TP3	B-3
TP4	C-4
TP5	C-1
TP6	F-4

BKG-

CM-

MX-

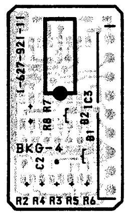

4
3
2
1
F
E
D
C
B
A
CN1
CN2
IC1
IC2
E1
TP1
TP2
TP3
TP4
TP5

1-627-933-12 SOLDERING SIDE

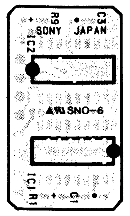
ES-1 (1-627-936-12)

CN1	E-1
CP1	B-3
D1	D-2
DL1	E-1
E1	E-4
E2	B-1
FL1	E-4
IC1	D-1
IC2	C-2
IC3	D-3
IC4	C-2
IC5	A-2
IC6	B-1
IC7	C-2
IC8	B-2
IC9	B-1
IC10	B-2
LV1	E-3
Q1	D-1
Q2	E-1
Q3	F-1
Q4	E-1
Q5	E-1
Q6	D-1
Q7	D-2
Q8	D-2
Q9	D-2
Q10	C-2
Q11	C-1
Q12	F-2
Q13	F-2
Q14	C-3
Q15	D-3
Q20	A-2
RV1	D-1
RV2	E-2
RV3	E-3
RV4	F-3
RV5	D-3
RV6	D-2
RV7	C-1
RV8	B-4
TP1	F-3
TP2	A-4
TP3	B-3
TP4	C-4
TP5	C-1
TP6	F-4

BKG-4 BOARD (NTSC ONLY)


1-627-921-11
BKG-4
R2 R4 R3 R5 R6

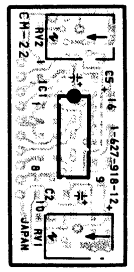
1-627-921-11 COMPONENT SIDE


SONY JAPAN
SNO-6
IC1

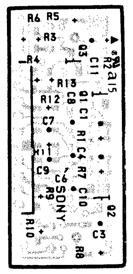
1-627-921-11 SOLDERING SIDE

CM-22 BOARD

Ser.No.11271-	(UC)
30811-	(J)
42081-	(EK)


CM-22
1-627-918-12
JAPAN
RV1
RV2

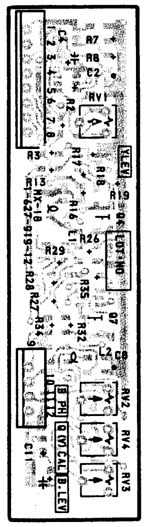
1-627-918-12 COMPONENT SIDE


R6 R5
R3
R4
SONY

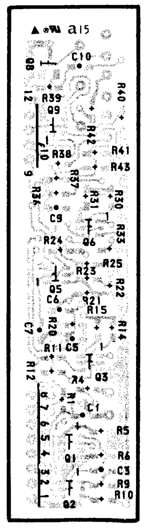
1-627-918-12 SOLDERING SIDE

MX-18 BOARD

Ser.No.11271-	(UC)
30811-	(J)
42081-	(EK)


MX-18
1-627-919-12
RV1
RV2
RV3
RV4

1-627-919-12 COMPONENT SIDE


R40
R41
R43
R5
R6
R10

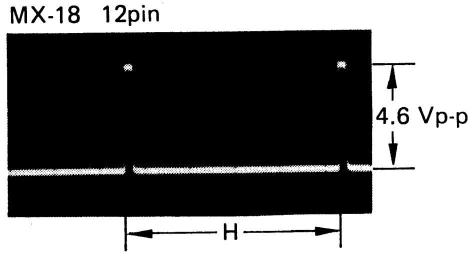
1-627-919-12 SOLDERING SIDE

ES-1

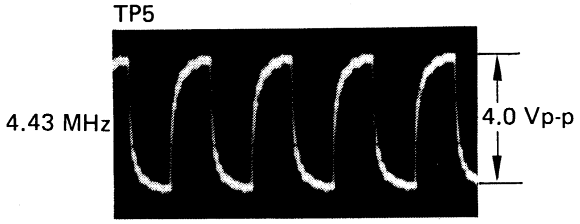
NOTE:

1. All voltage are dc, measured with a digital voltmeter. (input impedance: 10MΩ)
2. All waveforms are taken and DC voltage is measured in condition below.
   - . Set camera BARS/WB selector to BARS position.
   - . Supply a color-bar signal to the GEN LOCK IN terminal.
3. DC voltage is measured in condition below.
   - . Work the camera in the INT mode.

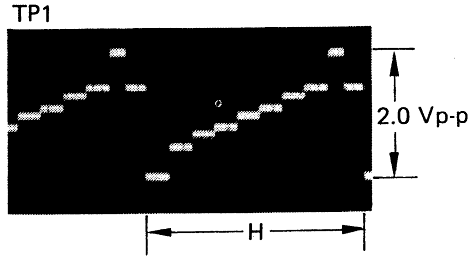
MX-18 12pin



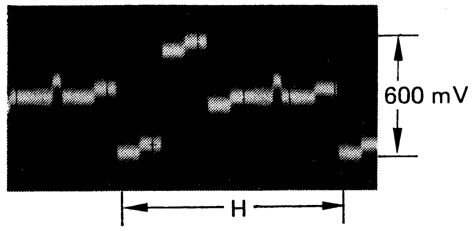
TP5



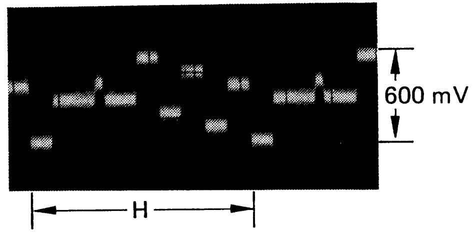
TP1



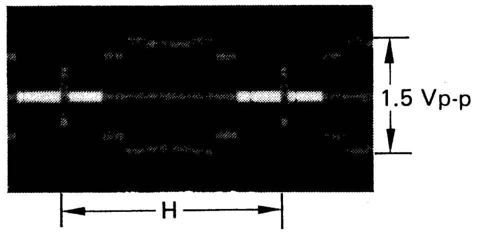
TP3



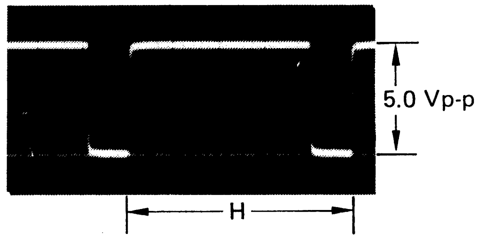
TP6



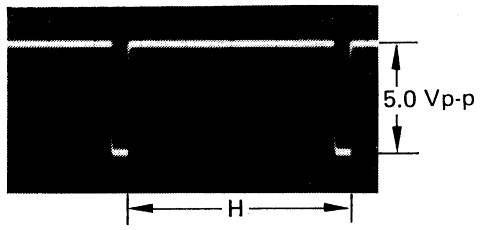
TP4



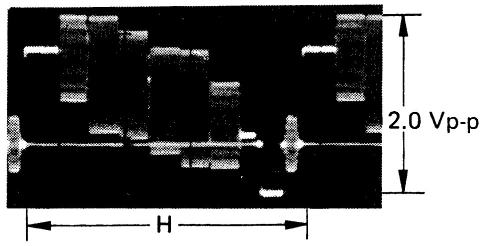
B20



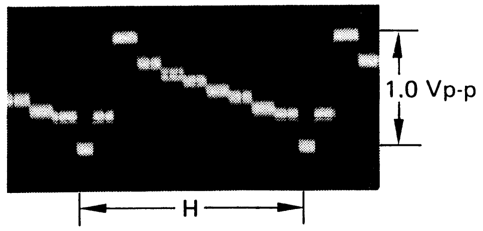
A21



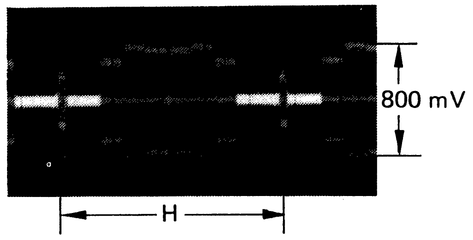
TP2 (VIDEO OUT)



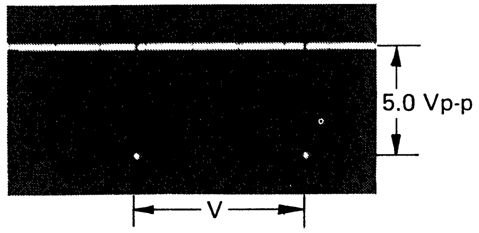
A9



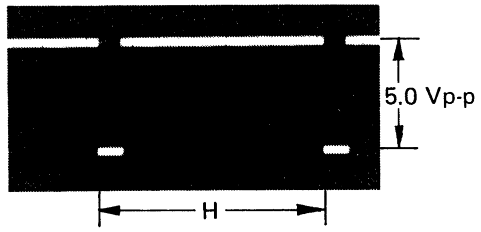
A11



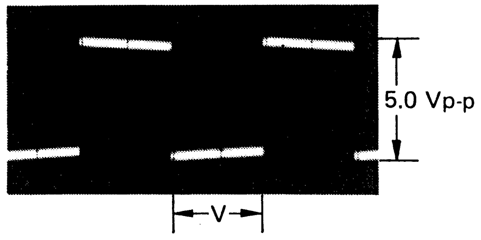
B23

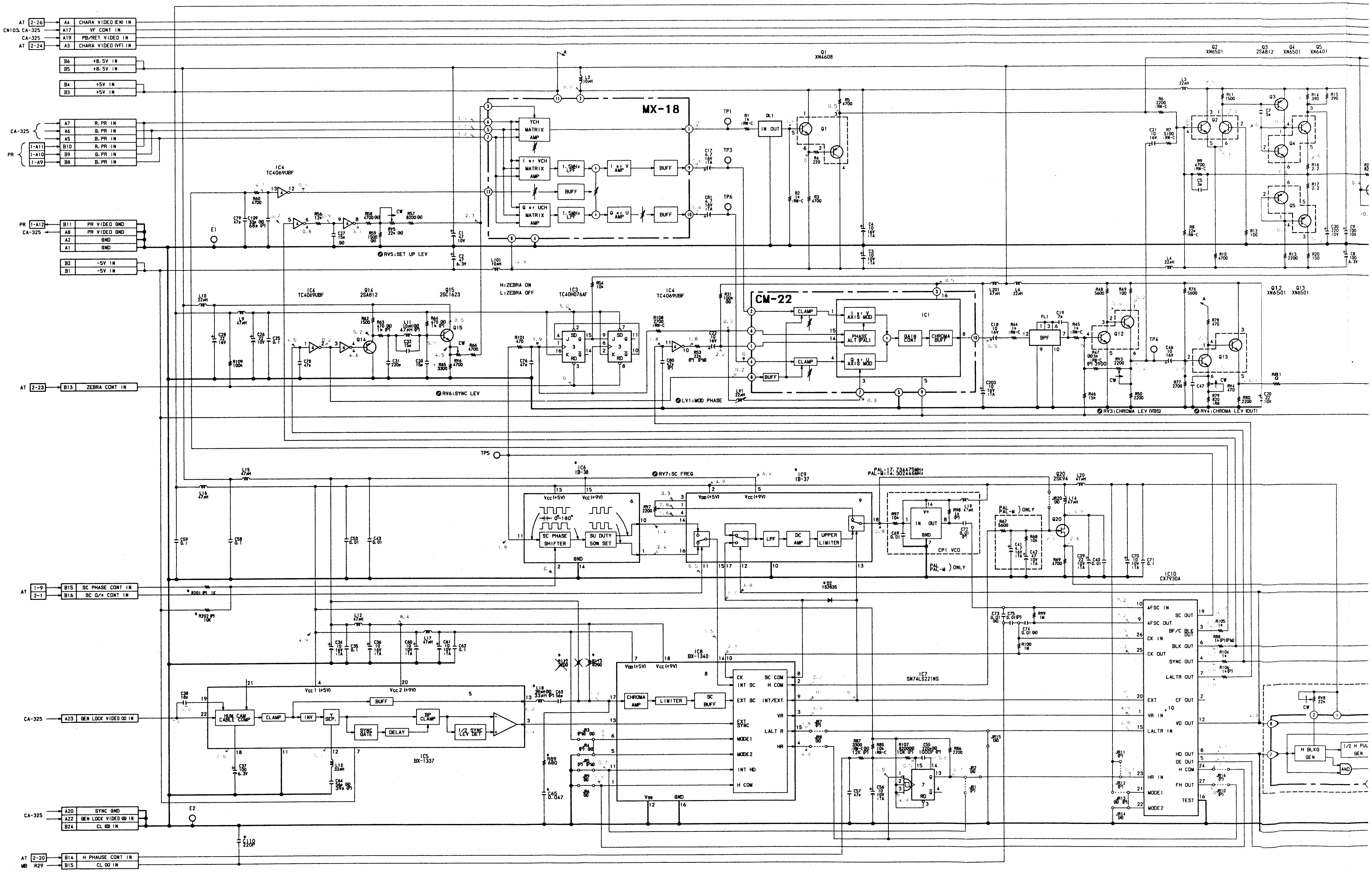


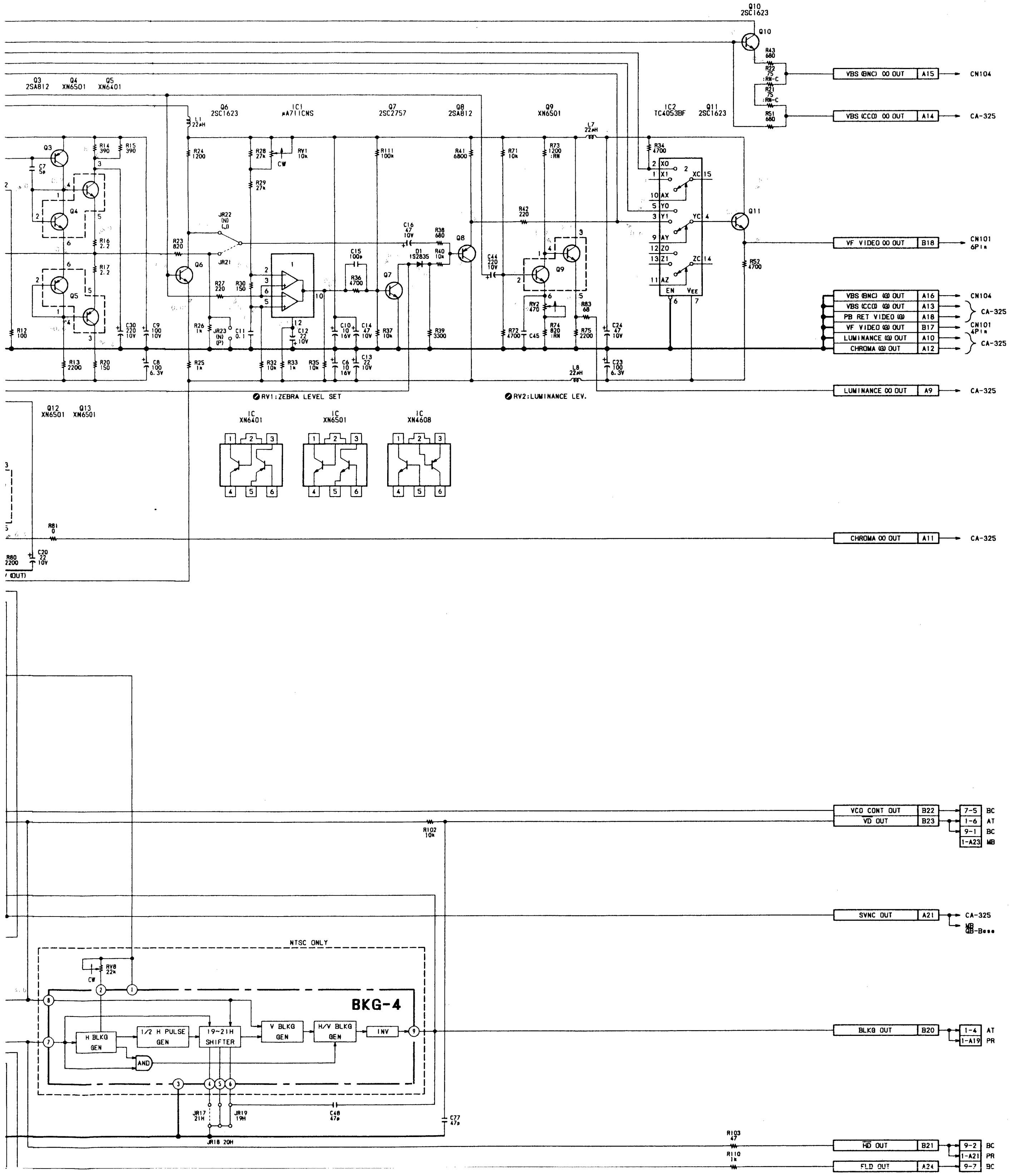
B21



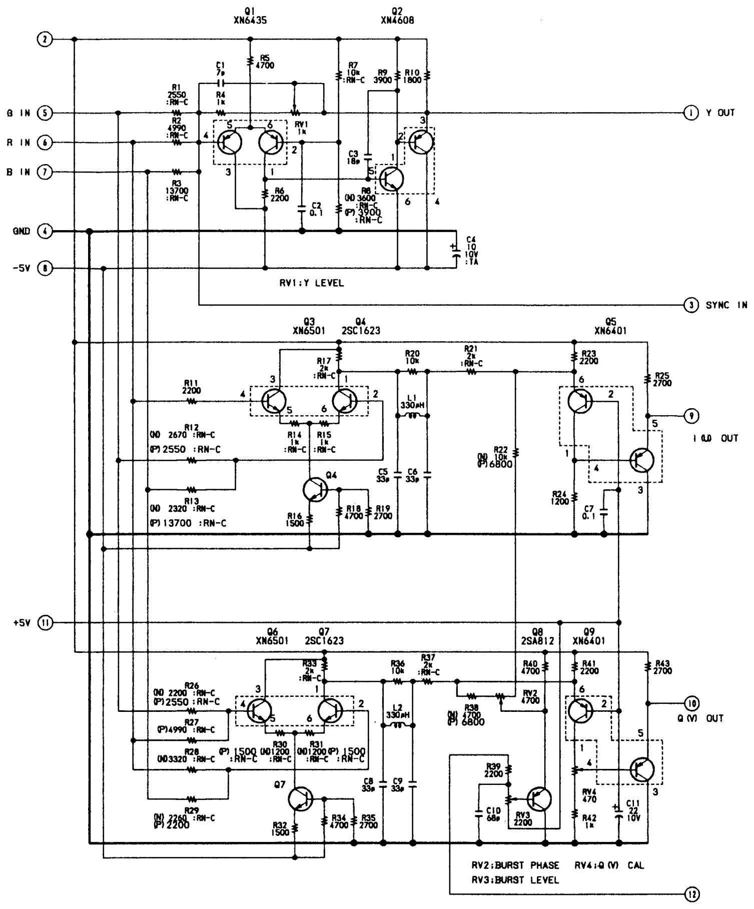
A24

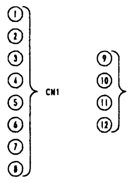



CHARA VIDEO (EN) IN
VF CONT IN
PB/RET VIDEO IN
CHARA VIDEO (VF) IN
+8.5V IN
+5V IN
R.PR IN
G.PR IN
B.PR IN
PR VIDEO GND
GND
-5V IN
ZEBRA CONT IN
SC PHASE CONT IN
SC 0/π CONT IN
GEN LOCK VIDEO (I) IN
SYNC GND
GEN LOCK VIDEO (I) IN
CL (I) IN
H PHAUSE CONT IN
CL (O) IN
CA-325
PR
AT
MB
MX-18
YCH MATRIX AMP
I or VCH MATRIX AMP
Q or UCH MATRIX AMP
1.5MHz LPF
I or V AMP
Q or U AMP
BUFF
CM-22
CLAMP
I or V AXIS MOD
PHASE ALT (PAL)
Q or U AXIS MOD
GAIN CONT
CHROMA BUFF
IC1
BPF
Q1 XN4608
Q2 XN6501
Q3 2SA812
Q4 XN6501
Q5 XN6401
Q12 XN6501
Q13 XN6501
Q14 2SA812
Q15 2SC1623
Q20 2SK94
IC3 TC40H076AF
IC4 TC4069UBF
IC5 BX-1337
IC6 IB-38
IC7 SN74LS221NS
IC8 BX-1340
IC9 IB-37
IC10 CX7930A
RV3:CHROMA LEV (VBS)
RV4:CHROMA LEV (OUT)
RV5:SET UP LEV
RV6:SYNC LEV
RV7:SC FREQ
LV1:MOD PHASE
H:ZEBRA ON
L:ZEBRA OFF
SC PHASE SHIFTER
SU DUTY SON SET
LPF
DC AMP
UPPER LIMITER
CP1 VCO
PAL:17.734475MHz
PAL-M:14.302446MHz
PAL-M ONLY
HUM CAN CABLE COMP
INV
Y SEP.
SYNC GATE
DELAY
BP CLAMP
1/2 SYNC LEV DET
CHROMA AMP
LIMITER
SC BUFF
4FSC IN
4FSC OUT
CK IN
CK OUT
SC OUT
BF/C BLK OUT
BLK OUT
SYNC OUT
LALTR OUT
EXT
VR IN
LALTR IN
CF OUT
VD OUT
HD OUT
OE OUT
H COM
FH OUT
HR IN
MODE1
MODE2
TEST
H BLKQ GEN
1/2 H PUL GEN
TP1
TP3
TP4
TP5
TP6
E1
E2

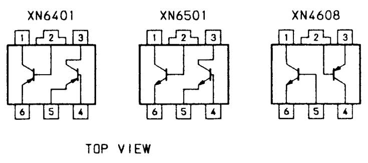

Q10 2SC1623
VBS (BNC) OO OUT A15 CN104
VBS (CCD) OO OUT A14 CA-325
Q3 2SA812 Q4 XN6501 Q5 XN6401
Q6 2SC1623
IC1 μA711CNS
Q7 2SC2757
Q8 2SA812
Q9 XN6501
IC2 TC4053BF
Q11 2SC1623
VF VIDEO OO OUT B18 CN101 6P1*
VBS (BNC) OUT A16 CN104
VBS (CCD) OUT A13 CA-325
PB RET VIDEO A18
VF VIDEO OUT B17 CN101 6P1*
LUMINANCE OUT A10 CA-325
CHROMA OUT A12
LUMINANCE OO OUT A9 CA-325
RV1:ZEBRA LEVEL SET
RV2:LUMINANCE LEV.
Q12 XN6501 Q13 XN6501
IC XN6401
IC XN6501
IC XN4608
CHROMA OO OUT A11 CA-325
VCO CONT OUT B22 7-5 BC
VD OUT B23 1-6 AT 9-1 BC 1-A23 MB
SYNC OUT A21 CA-325 MB CB-B***
NTSC ONLY
BKG-4
H BLKG GEN
1/2 H PULSE GEN
19-21H SHIFTER
V BLKG GEN
H/V BLKG GEN
INV
AND
BLKG OUT B20 1-4 AT 1-A19 PR
JR17 21H
JR19 19H
JR18 20H
HD OUT B21 9-2 BC 1-A21 PR
FLD OUT A24 9-7 BC

ES-1 BOARD


Q1 XN6435
Q2 XN4608
B IN
R IN
B IN
GND
-5V
Y OUT
RV1:Y LEVEL
SYNC IN
Q3 XN6501
Q4 2SC1623
Q5 XN6401
I (U) OUT
+5V
Q6 XN6501
Q7 2SC1623
Q8 2SA812
Q9 XN6401
Q (V) OUT
RV2:BURST PHASE
RV3:BURST LEVEL
RV4:Q (V) CAL
BF IN



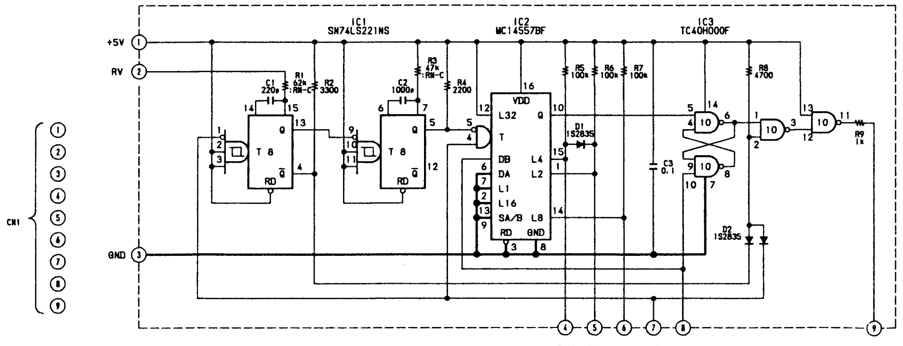
MX-18 BOARD


XN6401
XN6501
XN4608

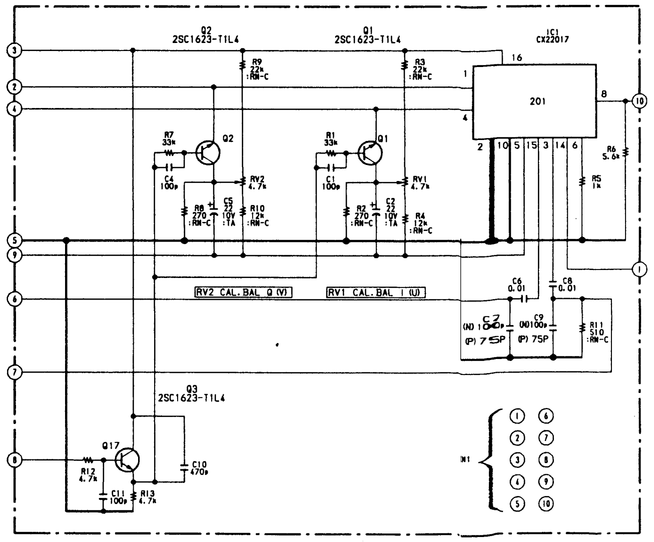
TOP VIEW

* NOTE

REF No	CHANGE INFORMATION	SER No
IC6	BX-1339A ⟶ IB-38	10921 - (UC) 30611 - (J) 41521 - (EK)
D2 C65 R89 R112 R113 L18	1S2835 0.047 ⟶ ADD 680 ⟶ ADD 2.2K ⟶ DELETE 8.2K ⟶ DELETE 56MH ⟶ 39MH (NTSC)	11271 and higher 30811 and higher 42081 and higher
C110	22P ⟶ ADD	11721 - (UC) 30841 - (J)


CN1
+5V
RV
GND
IC1 SN74LS221NS
IC2 MC14557BF
IC3 TC40H000F
21H
20H
19H
HD
VD
OUT

BKG-4 BOARD (NTSC)


Q2 2SC1623-T1L4
Q1 2SC1623-T1L4
IC1 CX22017
201
RV2 CAL. BAL. Q (V)
RV1 CAL. BAL. I (U)
Q3 2SC1623-T1L4
CN1

CM-22 BOARD

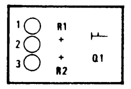
AT-53 BOARD

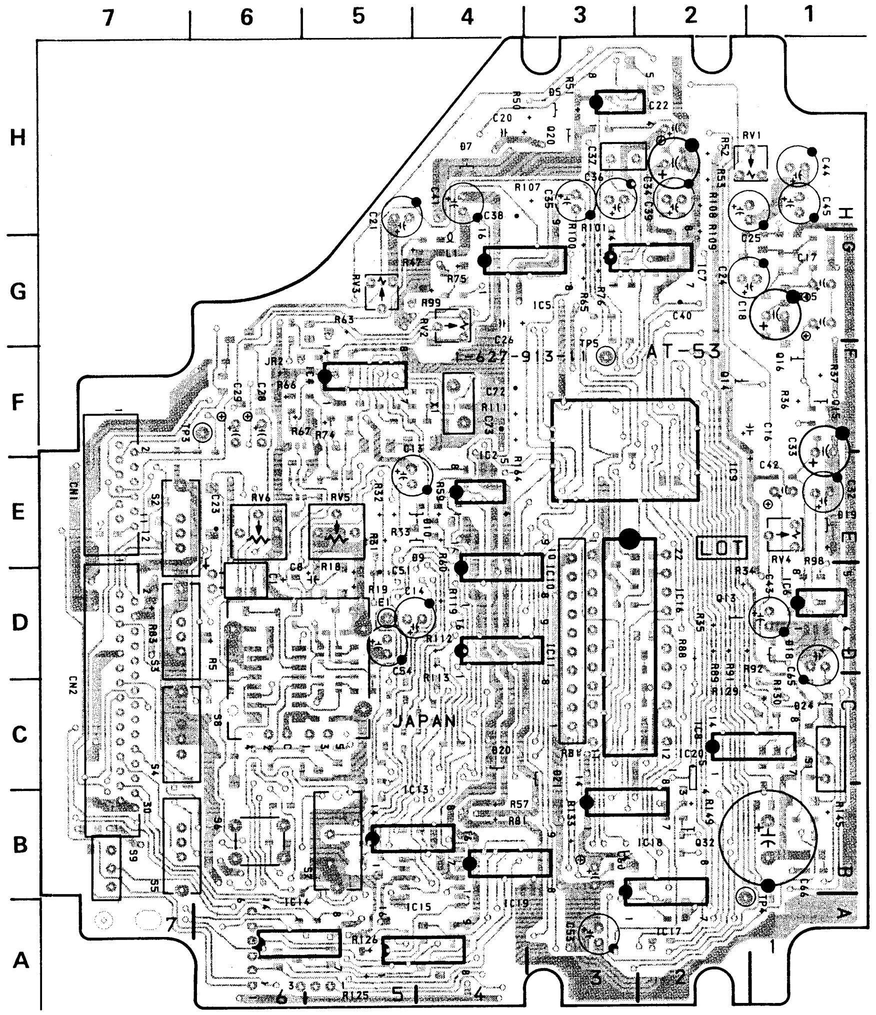
Ser.No.10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)

AT-53 (1-627-913-11)

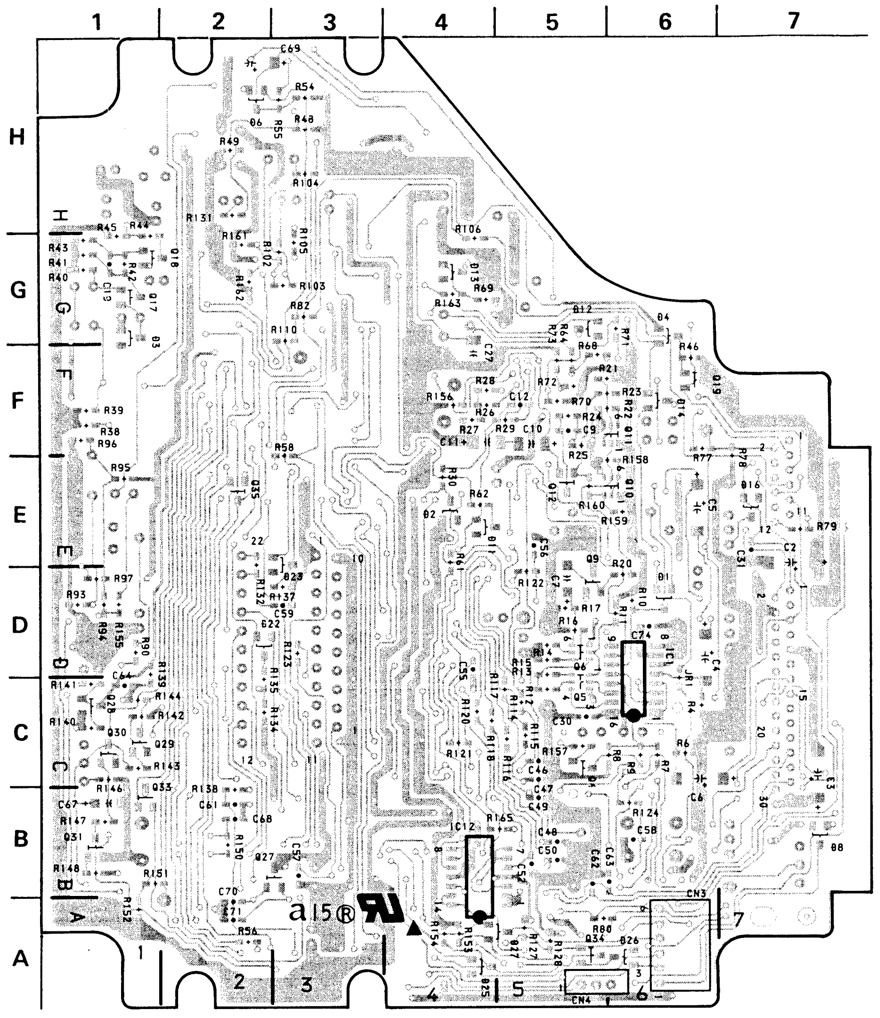
CN1	E-7	Q4	C-5
CN2	C-7	Q5	C-5
CN3	A-6	Q6	D-5
CN4	A-5	Q9	D-5
		Q10	E-6
D1	D-6	Q11	F-6
D2	E-4	Q12	E-5
D3	G-1	Q13	D-2
D4	G-6	Q14	F-2
D5	H-3	Q15	F-1
D6	H-2	Q16	F-1
D7	H-4	Q17	G-1
D8	B-7	Q18	G-1
D9	E-4	Q19	F-6
D10	E-4	Q20	H-3
D11	E-4	Q27	B-2
D12	G-5	Q28	C-1
D13	G-4	Q29	C-1
D14	F-6	Q30	C-1
D16	E-7	Q31	B-1
D18	D-1	Q32	B-2
D19	E-1	Q33	B-1
D20	C-4	Q34	A-5
D21	C-3	Q35	E-2
D22	D-2		
D23	D-3	RB1	D-3
D24	C-1		
D25	A-4	RV1	H-1
D26	A-6	RV2	G-4
D27	A-5	RV3	G-5
		RV4	E-1
E1	D-5	RV5	E-5
		RV6	E-6
IC1	C-6		
IC2	E-4	S1	C-1
IC4	F-5	S2	E-7
IC5	G-3	S3	D-7
IC6	D-1	S4	C-7
IC7	G-2	S5	B-7
IC8	C-2	S6	B-6
IC10	D-4	S7	B-5
IC11	D-4	S8	C-6
IC12	B-4	S9	B-7
IC13	B-5		
IC14	A-6	TP3	F-6
IC15	A-4	TP4	A-2
IC16	D-3	TP5	F-3
IC17	B-2		
IC18	B-3	X1	F-4
IC19	B-4		
IC20	C-2		

DUS-289 BOARD





1-627-913-11 COMPONENT SIDE



1-627-913-11 SOLDERING SIDE

AT-53 (1-627-913-11)

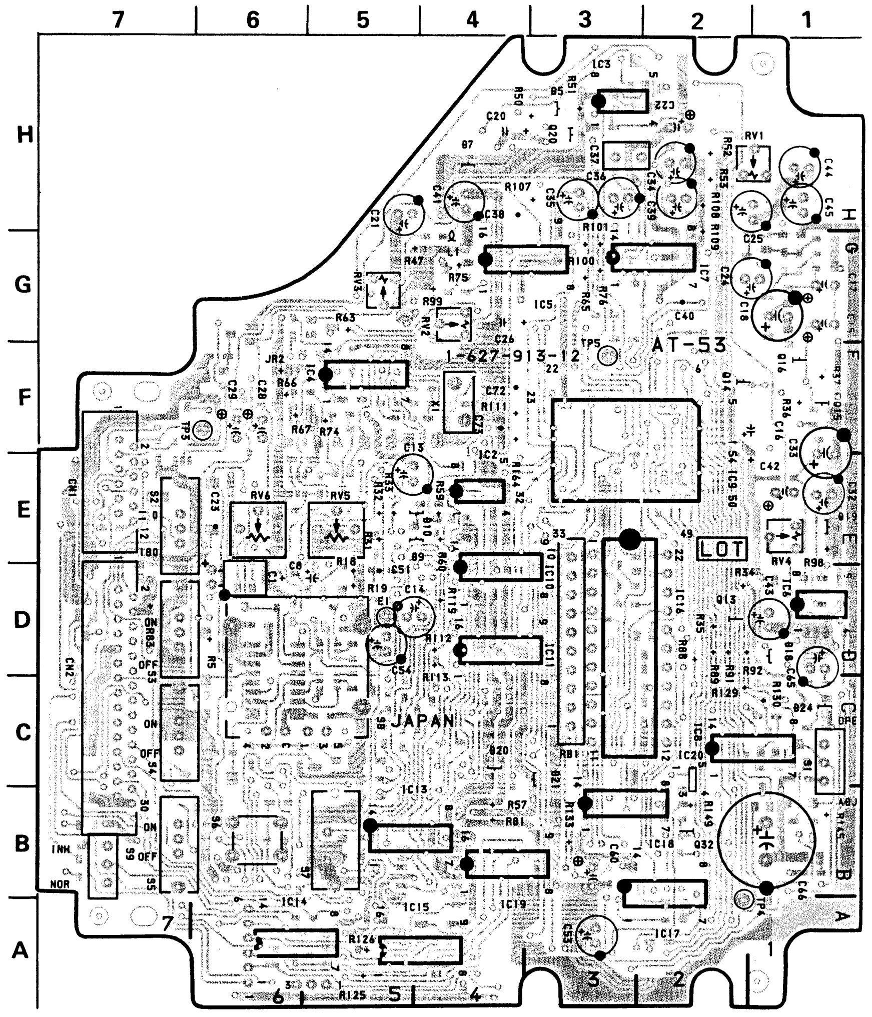
CN1	E-7	Q4	C-5
CN2	C-7	Q5	C-5
CN3	A-6	Q6	D-5
CN4	A-5	Q9	D-5
		Q10	E-6
D1	D-6	Q11	F-6
D2	E-4	Q12	E-5
D3	G-1	Q13	D-2
D4	G-6	Q14	F-2
D5	H-3	Q15	F-1
D6	H-2	Q16	F-1
D7	H-4	Q17	G-1
D8	B-7	Q18	G-1
D9	E-4	Q19	F-6
D10	E-4	Q20	H-3
D11	E-4	Q27	B-2
D12	G-5	Q28	C-1
D13	G-4	Q29	C-1
D14	F-6	Q30	C-1
D16	E-7	Q31	B-1
D18	D-1	Q32	B-2
D19	E-1	Q33	B-1
D20	C-4	Q34	A-5
D21	C-3	Q35	E-2
D22	D-2		
D23	D-3	RB1	D-3
D24	C-1		
D25	A-4	RV1	H-1
D26	A-6	RV2	G·4
D27	A-5	RV3	G·5
		RV4	E·1
E1	D-5	RV5	E·5
		RV6	E·6
IC1	C-6		
IC2	E-4	S1	C·1
IC4	F-5	S2	E·7
IC5	G-3	S3	D·7
IC6	D-1	S4	C·7
IC7	G-2	S5	B·7
IC8	C-2	S6	B·6
IC10	D-4	S7	B·5
IC11	D-4	S8	C·6
IC12	B-4	S9	B·7
IC13	B-5		
IC14	A-6	TP3	F·6
IC15	A-4	TP4	A·2
IC16	D-3	TP5	F·3
IC17	B-2		
IC18	B-3	X1	F·4
IC19	B-4		
IC20	C-2		

AT-53 BOARD

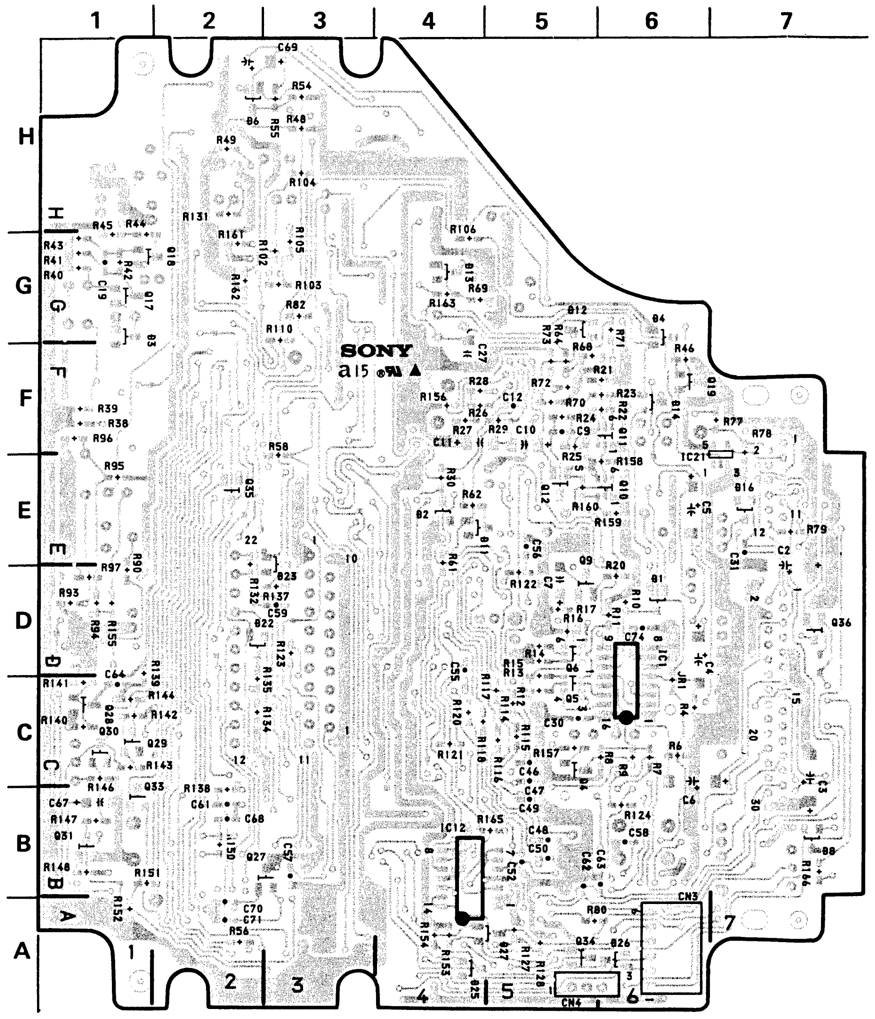
Ser.No.11271- (UC)
30811- (J)
42081- (EK)

AT-53 (1-627-913-12)

CN1	E-7	Q4	C-5
CN2	C-7	Q5	C-5
CN3	A-6	Q6	D-5
CN4	A-5	Q9	D-5
		Q10	E-6
D1	D-6	Q11	F-6
D2	E-4	Q12	E-5
D3	G-1	Q13	D-2
D4	G-6	Q14	F-2
D5	H-3	Q15	F-1
D6	H-2	Q16	F-1
D7	H-4	Q17	G-1
D8	B-7	Q18	G-1
D9	E-4	Q19	F-6
D10	E-4	Q20	H-3
D11	E-4	Q27	B-2
D12	G-5	Q28	C-1
D13	G-4	Q29	C-1
D14	F-6	Q30	C-1
D16	E-7	Q31	B-1
D18	D-1	Q32	B-2
D19	E-1	Q33	B-1
D20	C-4	Q34	A-5
D21	C-3	Q35	E-2
D22	D-2		
D23	D-3	RB1	D-3
D24	C-1		
D25	A-4	RV1	H-1
D26	A-6	RV2	G-4
D27	A-5	RV3	G-5
		RV4	E-1
E1	D-5	RV5	E-5
		RV6	E-6
IC1	C-6		
IC2	E-4	S1	C-1
IC4	F-5	S2	E-7
IC5	G-3	S3	D-7
IC6	D-1	S4	C-7
IC7	G-2	S5	B-7
IC8	C-2	S6	B-6
IC10	D-4	S7	B-5
IC11	D-4	S8	C-6
IC12	B-4	S9	B-7
IC13	B-5		
IC14	A-6	TP3	F-6
IC15	A-4	TP4	A-2
IC16	D-3	TP5	F-3
IC17	B-2		
IC18	B-3	X1	F-4
IC19	B-4		
IC20	C-2		



1-627-913-12 COMPONENT SIDE

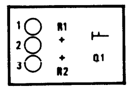


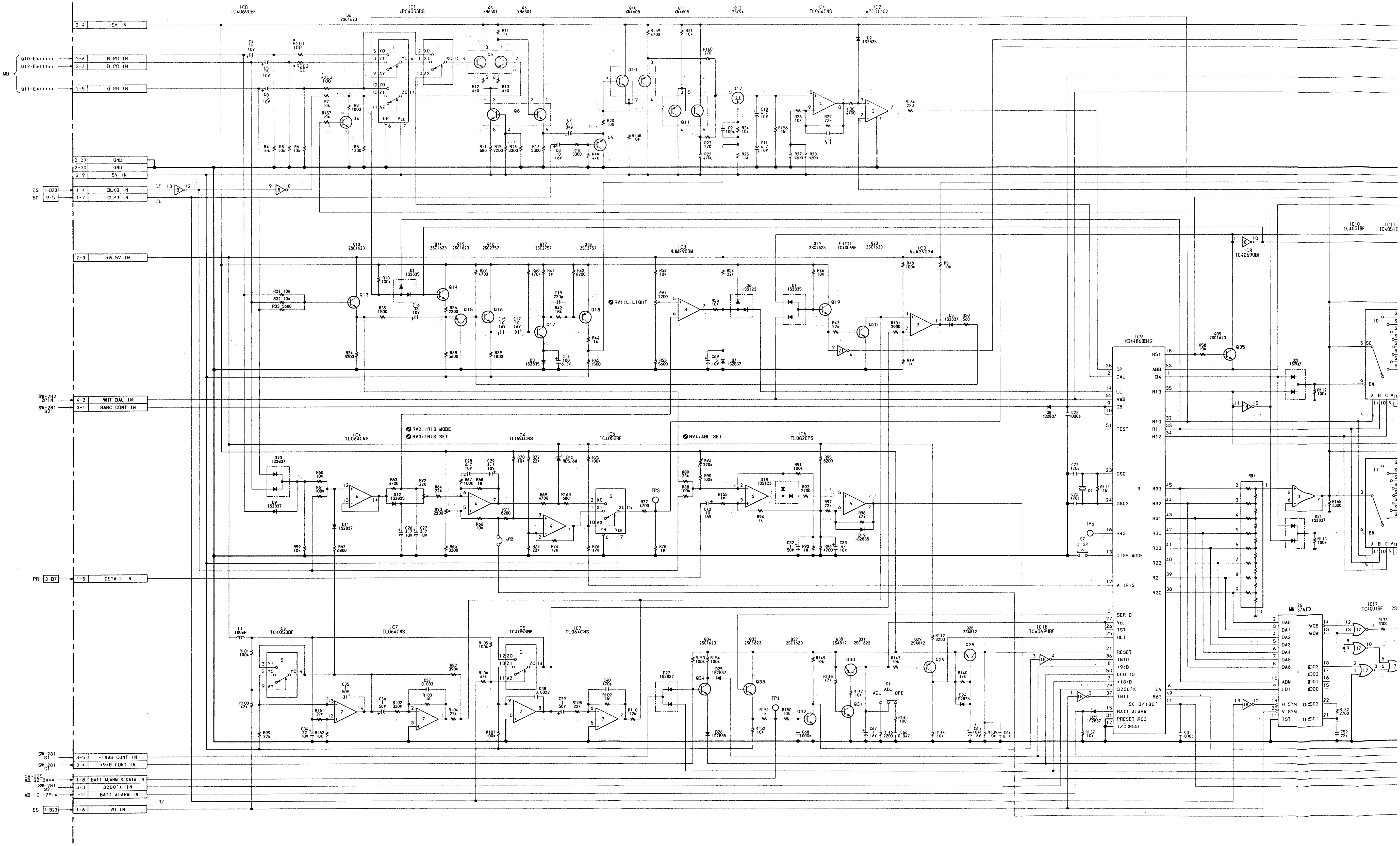
1-627-913-12 SOLDERING SIDE

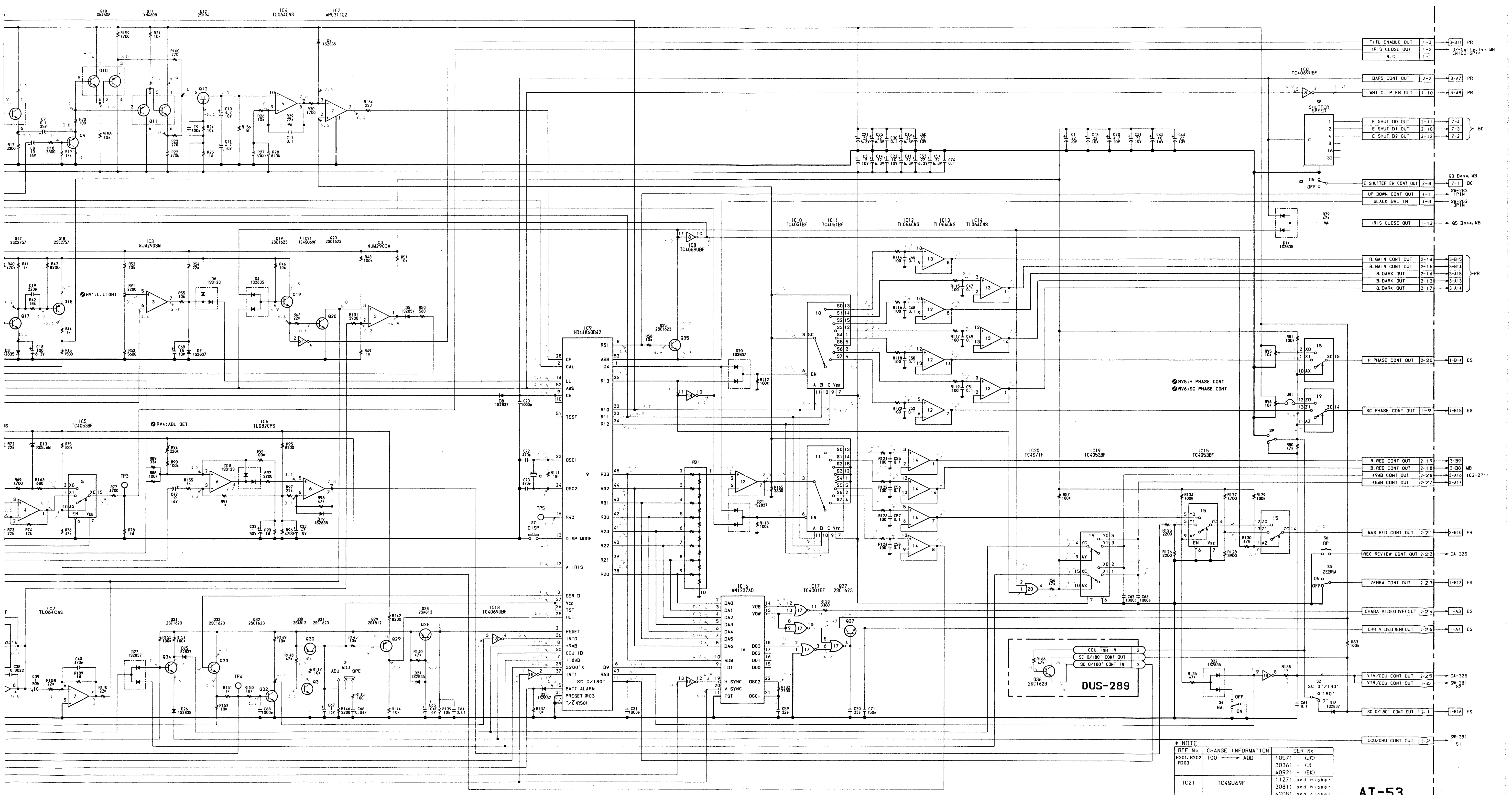
AT-53 (1-627-913-12)

CN1	E-7	Q4	C-5
CN2	C-7	Q5	C-5
CN3	A-6	Q6	D-5
CN4	A-5	Q9	D-5
		Q10	E-6
D1	D-6	Q11	F-6
D2	E-4	Q12	E-5
D4	G-6	Q13	D-2
D5	H-3	Q14	F-2
D6	H-2	Q15	F-1
D7	H-4	Q16	F-1
D8	B-7	Q17	G-1
D9	E-4	Q18	G-1
D10	E-4	Q19	F-6
D11	E-4	Q20	H-3
D12	G-5	Q27	B-2
D13	G-4	Q28	C-1
D14	F-6	Q29	C-1
D16	E-7	Q30	C-1
D18	D-1	Q31	B-1
D19	E-1	Q32	B-2
D20	C-4	Q33	B-1
D21	C-3	Q34	A-5
D22	D-2	Q35	E-2
D23	D-3	Q36	D-7
D24	C-1		
D25	A-4	RB1	D-3
D26	A-6		
D27	A-5	RV1	H-1
		RV2	G-4
E1	D-5	RV3	G-5
		RV4	E-1
IC1	C-6	RV5	E-5
IC2	E-4	RV6	E-6
IC3	H-3		
IC4	F-5	S1	C-1
IC5	G-3	S2	E-7
IC6	D-1	S3	D-7
IC7	G-2	S4	C-7
IC8	C-2	S5	B-7
IC9	E-3	S6	B-6
IC10	D-4	S7	B-5
IC11	D-4	S8	C-6
IC12	B-4	S9	B-7
IC13	B-5		
IC14	A-6	TP3	F-6
IC15	A-4	TP4	A-2
IC16	D-3	TP5	F-3
IC17	B-2		
IC18	B-3	X1	F-4
IC19	B-4		
IC20	C-2		
IC21	F-7		

DUS-289 BOARD




Q10-Emitter
Q12-Emitter
Q11-Emitter
MB
2-4 +5V IN
2-6 R PR IN
2-7 B PR IN
2-5 G PR IN
2-29 GND
2-30 GND
2-9 -5V IN
ES 1-B20 1-4 BLKG IN
BC 9-5 1-7 CLP3 IN
2-3 +8.5V IN
SW-282 2PIN 4-2 WHT BAL IN
SW-281 S2 3-1 BARC CONT IN
PR 3-B7 1-5 DETAIL IN
SW-281 S1 3-5 +18dB CONT IN
SW-281 S1 3-4 +9dB CONT IN
CA-325 MB Q5-Base 1-8 BATT ALARM S.DATA IN
SW-281 S2 3-3 3200°K IN
MB IC1-7Pin 1-11 BATT ALARM IN
ES 1-B23 1-6 VD IN
IC8 TC4069UBF
IC1 μPC4053BG
IC4 TL064CNS
IC2 μPC311G2
IC3 NJM2903M
IC5 TC4053BF
IC6 TL082CPS
IC7 TL064CNS
IC9 HD44860B42
IC10 TC4051BF
IC16 MN1374D
IC17 TC4001BF
IC18 TC4069UBF
RV1: L.LIGHT
RV2: IRIS MODE
RV3: IRIS SET
RV4: ABL SET
TP3
TP4
TP5
S7 DISP
S1 ADJ OPE
X1
RB1

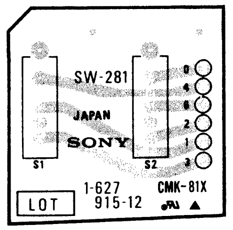

Q10 XN4608
Q11 XN4608
Q12 2SK94
IC4 TL064CNS
IC2 μPC311G2
Q17 2SC2757
Q18 2SC2757
IC3 NJM2903M
Q19 2SC1623
IC21 TC4SU69F
Q20 2SC1623
RV1:L.LIGHT
IC5 TC4053BF
RV4:ABL SET
IC6 TL082CPS
TP3
IC7 TL064CNS
Q34 2SC1623
Q33 2SC1623
Q32 2SC1623
Q30 2SA812
Q31 2SC1623
Q29 2SA812
Q28 2SA812
TP4
S1 ADJ OPE
IC18 TC4069UBF
IC9 HD44860B42
TP5
S7 DISP
IC8 TC4069UBF
Q35 2SC1623
RB1
IC16 MN1237AD
IC17 TC4001BF
Q27 2SC1623
IC10 TC4051BF
IC11 TC4051BF
IC12 TL064CNS
IC13 TL064CNS
IC14 TL064CNS
IC20 TC4S71F
IC19 TC4053BF
IC15 TC4053BF
RV5:H PHASE CONT
RV6:SC PHASE CONT
DUS-289
CCU ENH IN
SC 0/180° CONT OUT
SC 0/180° CONT IN
Q36 2SC1623
S4 BAL OFF ON
S2 SC 0°/180° 180° 0°
S6 RP
S5 ZEBRA ON OFF
S8 SHUTTER SPEED
S3 ON OFF
IC8 TC4069UBF
TITL ENABLE OUT 1-3 3-B11 PR
IRIS CLOSE OUT 1-2 Q7-Collector, MB CN103-5Pin
N.C 1-1
BARS CONT OUT 2-2 3-A7 PR
WHT CLIP EN OUT 1-10 3-A8 PR
E SHUT D0 OUT 2-11 7-4
E SHUT D1 OUT 2-10 7-3
E SHUT D2 OUT 2-12 7-2 BC
E SHUTTER EN CONT OUT 2-8 7-1 BC
Q3-Base, MB
UP DOWN CONT OUT 4-1 SW-282 1Pin
BLACK BAL IN 4-3 SW-282 3Pin
IRIS CLOSE OUT 1-12 Q5-Base, MB
R.GAIN CONT OUT 2-14 3-B15
B.GAIN CONT OUT 2-15 3-B14
R.DARK OUT 2-16 3-A15
B.DARK OUT 2-13 3-A13
G.DARK OUT 2-17 3-A14 PR
H PHASE CONT OUT 2-20 1-B14 ES
SC PHASE CONT OUT 1-9 1-B15 ES
R.RED CONT OUT 2-19 3-B9
B.RED CONT OUT 2-18 3-B8 MB
+9dB CONT OUT 2-28 3-A16 IC2-2Pin
+18dB CONT OUT 2-27 3-A17
MAS RED CONT OUT 2-21 3-B10 PR
REC REVIEW CONT OUT 2-22 CA-325
ZEBRA CONT OUT 2-23 1-B13 ES
CHARA VIDEO (VF) OUT 2-24 1-A3 ES
CHR VIDEO (EN) OUT 2-26 1-A4 ES
VTR/CCU CONT OUT 2-25 CA-325
VTR/CCU CONT OUT 3-6 SW-281 S2
SC 0/180° CONT OUT 2-1 1-B16 ES
CCU/CHU CONT OUT 3-2 SW-281 S1

* NOTE

REF No	CHANGE INFORMATION	SER No
R201, R202 R203	100 → ADD	10571 - (UC) 30361 - (J) 40921 - (EK)
IC21	TC4SU69F	11271 and higher 30811 and higher 42081 and higher
C65	3.3/35V → 10MF/16V	12091 - (UC) 30981 - (J) 42851 - (EK)

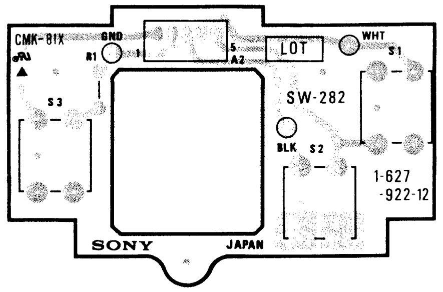
AT-53
DXC-325

SW-281 BOARD


SW-281
JAPAN
SONY
S1
S2
1-627
915-12
CMK-81X
LOT

1-627-915-11, 12 COMPONENT SIDE

SW-282 BOARD


CMK-81X
GND
B1
A2
LOT
WHT
S1
S3
SW-282
BLK
S2
1-627
-922-12
SONY
JAPAN

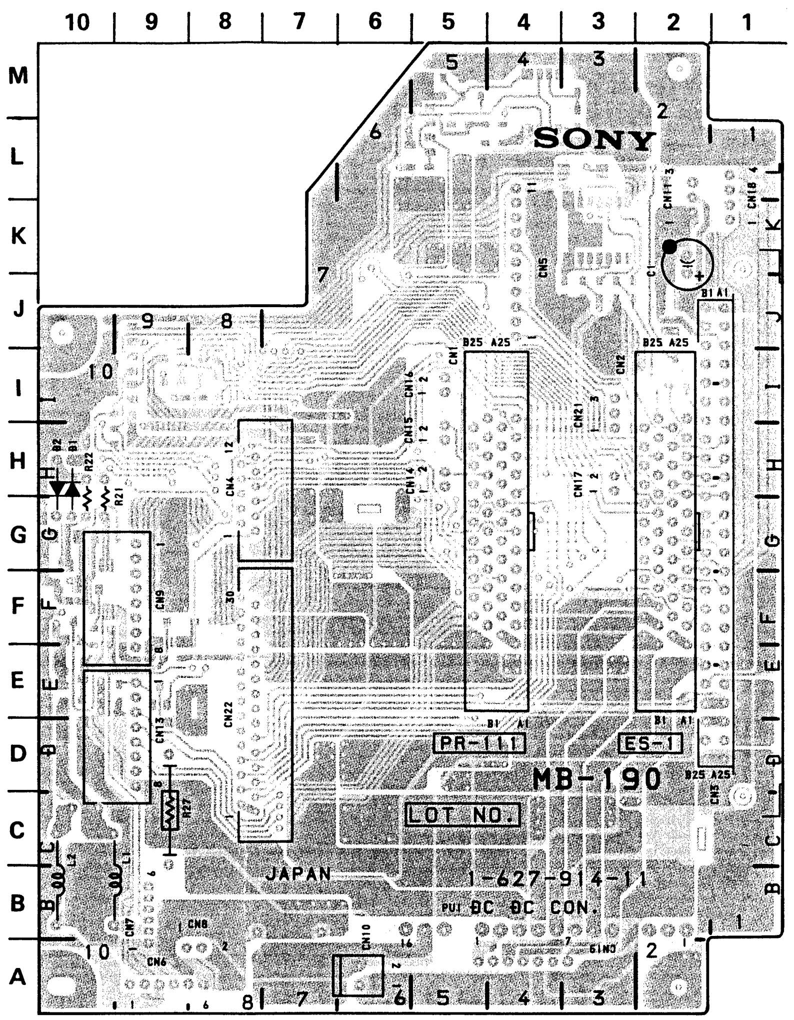
1-627-922-11, 12 COMPONENT SIDE

MB-190 BOARD

Ser.No.10001-10250 (UC)
30001-30150 (J)
40001-40350 (EK)

MB-190 (1-627-914-11,12)

CN1	G-4
CN2	G-2
CN3	G-1
CN4	H-7
CN5	K-4
CN6	A-4
CN7	B-9
CN8	A-8
CN9	F-9
CN10	A-6
CN11	L-2
CN13	D-9
CN14	H-5
CN15	H-5
CN16	I-5
CN17	H-3
CN18	L-1
CN19	A-4
CN21	I-3
CN22	E-7
D1	H-10
D2	H-10
D3	E-10
IC1	M-4
IC2	I-8
IC3	K-3
PU1	B-2
Q1	M-5
Q2	L-5
Q3	I-8
Q4	I-9
Q5	E-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-9
Q11	I-9
Q12	I-9


10
9
8
7
6
5
4
3
2
1
M
L
K
J
I
H
G
F
E
D
C
B
A
SONY
CN1
CN2
CN4
CN5
CN9
CN13
CN22
B25 A25
B1 A1
PR-111
ES-1
MB-190
LOT NO.
JAPAN
1-627-914-11
PU1
BC
CON

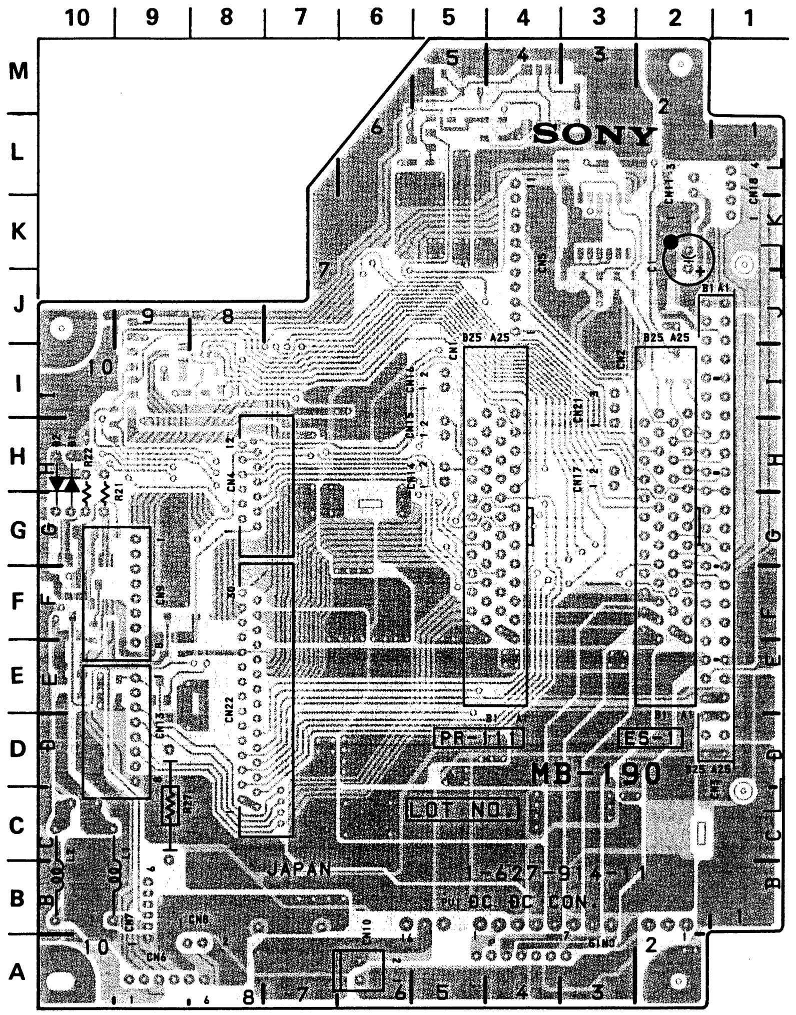
1-627-914-11 COMPONENT SIDE

MB-190 BOARD

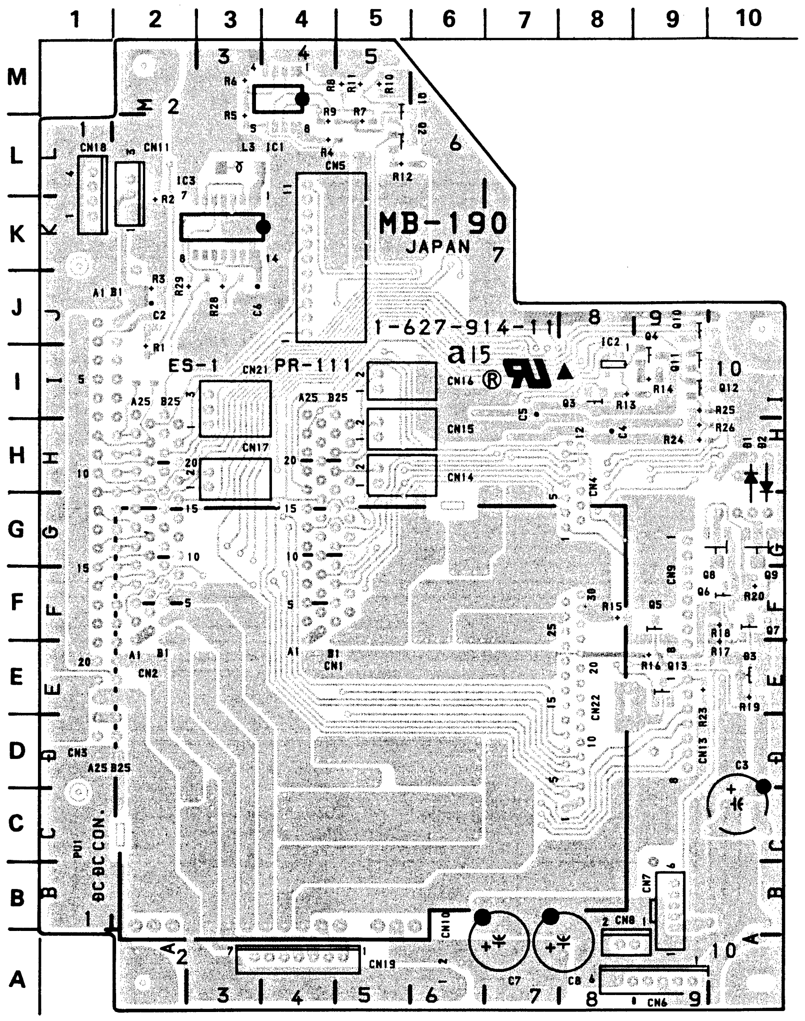
Ser.No.10001-10250 (UC)
30001-30150 (J)
40001-40350 (EK)

MB-190 (1-627-914-11,12)

CN1	G-4
CN2	G-2
CN3	G-1
CN4	H-7
CN5	K-4
CN6	A-4
CN7	B-9
CN8	A-8
CN9	F-9
CN10	A-6
CN11	L-2
CN13	D-9
CN14	H-5
CN15	H-5
CN16	I-5
CN17	H-3
CN18	L-1
CN19	A-4
CN21	I-3
CN22	E-7
D1	H-10
D2	H-10
D3	E-10
IC1	M-4
IC2	I-8
IC3	K-3
PU1	B-2
Q1	M-5
Q2	L-5
Q3	I-8
Q4	I-9
Q5	E-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-9
Q11	I-9
Q12	I-9


10
9
8
7
6
5
4
3
2
1
M
L
K
J
I
H
G
F
E
D
C
B
A
SONY
MB-190
PR-111
ES-1
LOT NO.
JAPAN
1-627-914
DC DC CON.

1-627-914-11 COMPONENT SIDE

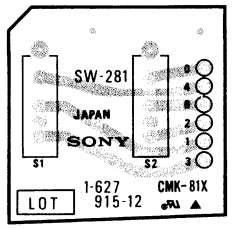

1
2
3
4
5
6
7
8
9
10
M
L
K
J
I
H
G
F
E
D
C
B
A
MB-190
JAPAN
1-627-914-11
ES-1
PR-111
DC DC CON.

1-627-914-11 SOLDERING SIDE

MB-190 (1-627-914-11,12)

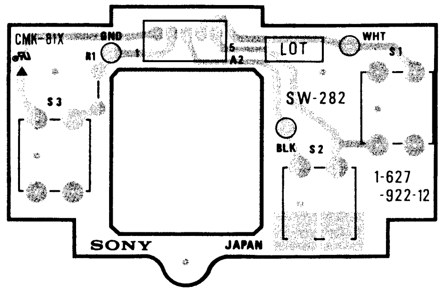
CN1	G-4
CN2	G-2
CN3	G-1
CN4	H-7
CN5	K-4
CN6	A-4
CN7	B-9
CN8	A-8
CN9	F-9
CN10	A-6
CN11	L-2
CN13	D-9
CN14	H-5
CN15	H-5
CN16	I-5
CN17	H-3
CN18	L-1
CN19	A-4
CN21	I-3
CN22	E-7
D1	H-10
D2	H-10
D3	E-10
IC1	M-4
IC2	I-8
IC3	K-3
PU1	B-2
Q1	M-5
Q2	L-5
Q3	I-8
Q4	I-9
Q5	E-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-9
Q11	I-9
Q12	I-9

SW-281 BOARD


SW-281
JAPAN
SONY
S1
S2
0
4
8
2
1
3
LOT
1-627
915-12
CMK-81X

1-627-915-11, 12 COMPONENT SIDE

SW-282 BOARD


CMK-81X
GND
B1
A2
LOT
WHT
S1
S3
SW-282
BLK
S2
1-627
-922-12
SONY
JAPAN

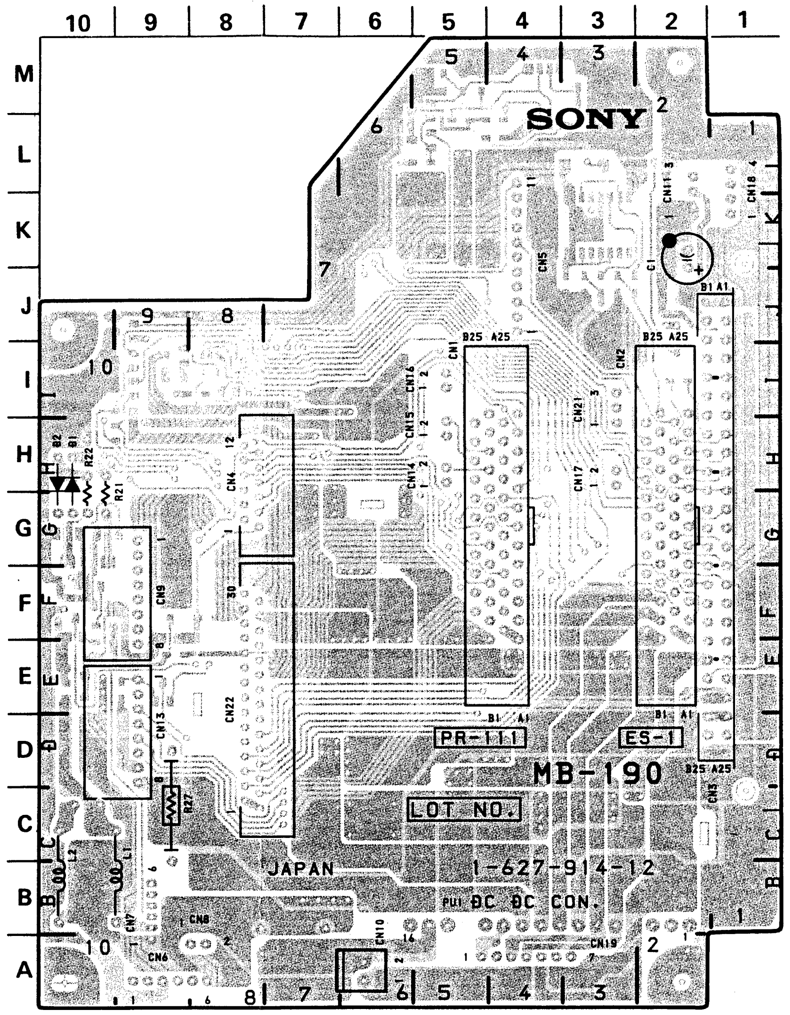
1-627-922-11, 12 COMPONENT SIDE

MB-190 BOARD

Ser.No.10251- (UC)
30151- (J)
40351- (EK)

MB-190 (1-627-914-11,12)

CN1	G-4
CN2	G-2
CN3	G-1
CN4	H-7
CN5	K-4
CN6	A-4
CN7	B-9
CN8	A-8
CN9	F-9
CN10	A-6
CN11	L-2
CN13	D-9
CN14	H-5
CN15	H-5
CN16	I-5
CN17	H-3
CN18	L-1
CN19	A-4
CN21	I-3
CN22	E-7
D1	H-10
D2	H-10
D3	E-10
IC1	M-4
IC2	I-8
IC3	K-3
PU1	B-2
Q1	M-5
Q2	L-5
Q3	I-8
Q4	I-9
Q5	E-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-9
Q11	I-9
Q12	I-9


10
9
8
7
6
5
4
3
2
1
M
L
K
J
I
H
G
F
E
D
C
B
A
SONY
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
CN10
CN13
CN14
CN15
CN16
CN17
CN18
CN19
CN21
CN22
R21
R22
R27
C1
L1
L2
B25 A25
B1 A1
PR-111
ES-1
MB-190
LOT NO.
JAPAN
1-627-914-12
PU1 DC DC CON.

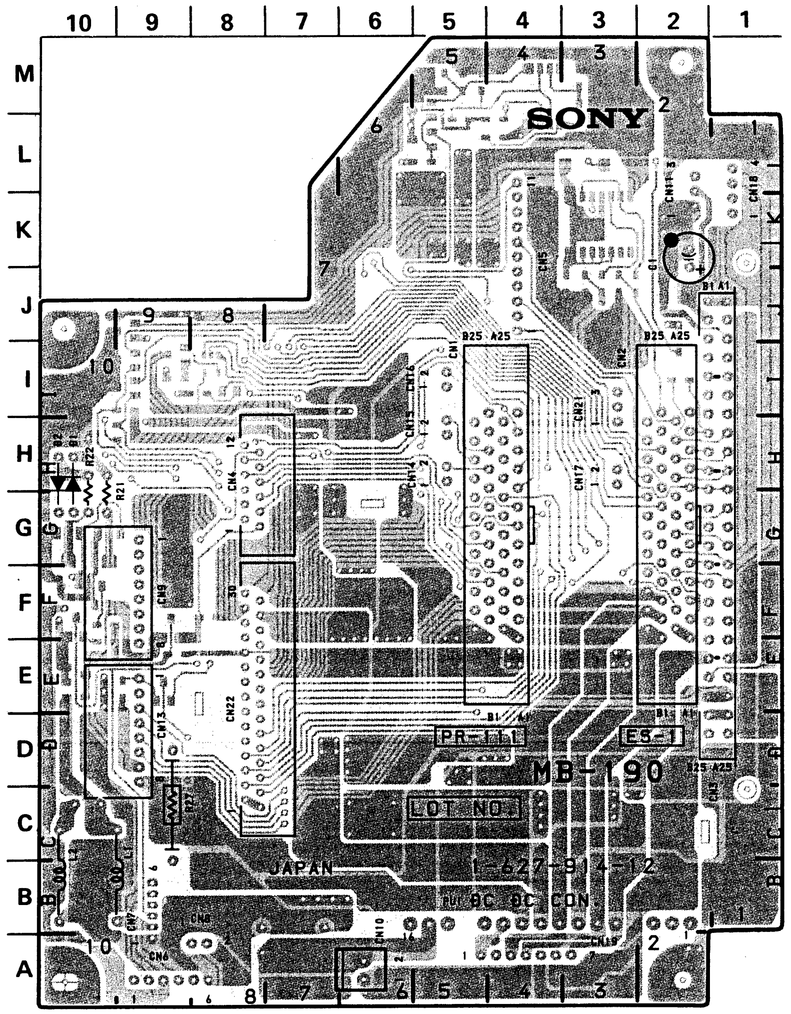
1-627-914-12 COMPONENT SIDE

MB-190 BOARD

Ser.No.	
10251-	(UC)
30151-	(J)
40351-	(EK)

MB-190 (1-627-914-11,12)

CN1	G-4
CN2	G-2
CN3	G-1
CN4	H-7
CN5	K-4
CN6	A-4
CN7	B-9
CN8	A-8
CN9	F-9
CN10	A-6
CN11	L-2
CN13	D-9
CN14	H-5
CN15	H-5
CN16	I-5
CN17	H-3
CN18	L-1
CN19	A-4
CN21	I-3
CN22	E-7
D1	H-10
D2	H-10
D3	E-10
IC1	M-4
IC2	I-8
IC3	K-3
PU1	B-2
Q1	M-5
Q2	L-5
Q3	I-8
Q4	I-9
Q5	E-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-9
Q11	I-9
Q12	I-9


10
9
8
7
6
5
4
3
2
1
M
L
K
J
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G
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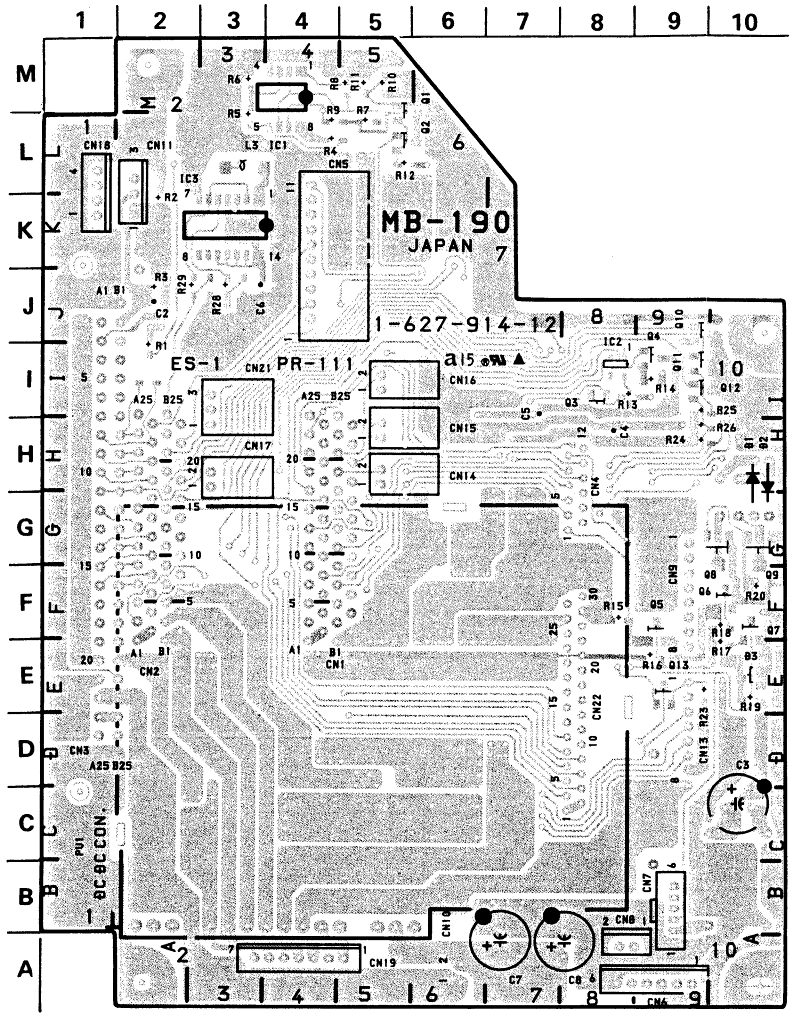
E
D
C
B
A
SONY
MB-190
PR-111
ES-1
LOT NO.
JAPAN
1-627-914-12
DC DC CON

1-627-914-12 COMPONENT SIDE


1
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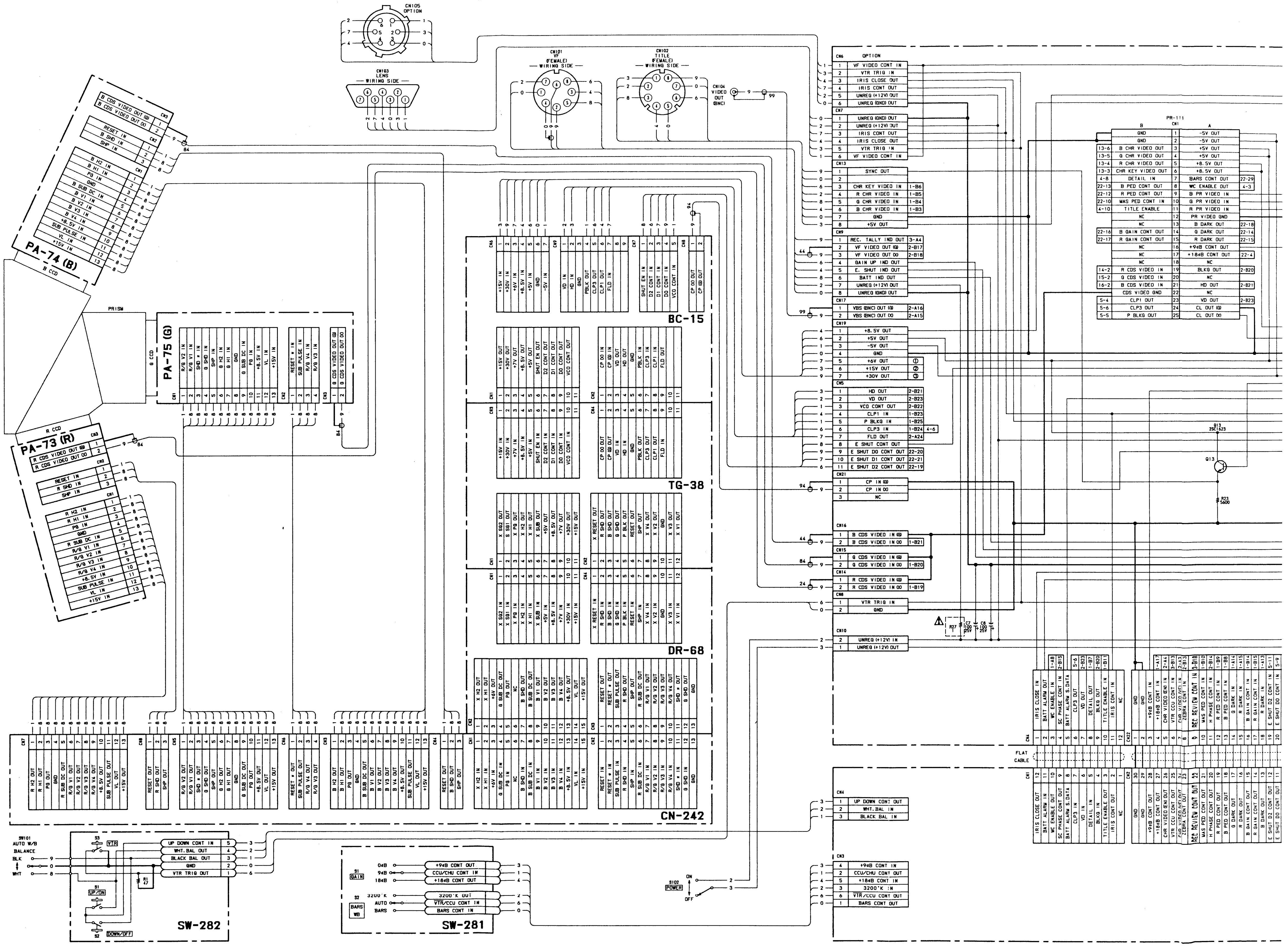
7
8
9
10
M
L
K
J
I
H
G
F
E
D
C
B
A
MB-190
JAPAN
1-627-914-12
ES-1
PR-111
DC DC CON.

1-627-914-12 SOLDERING SIDE

MB-190 (1-627-914-11,12)

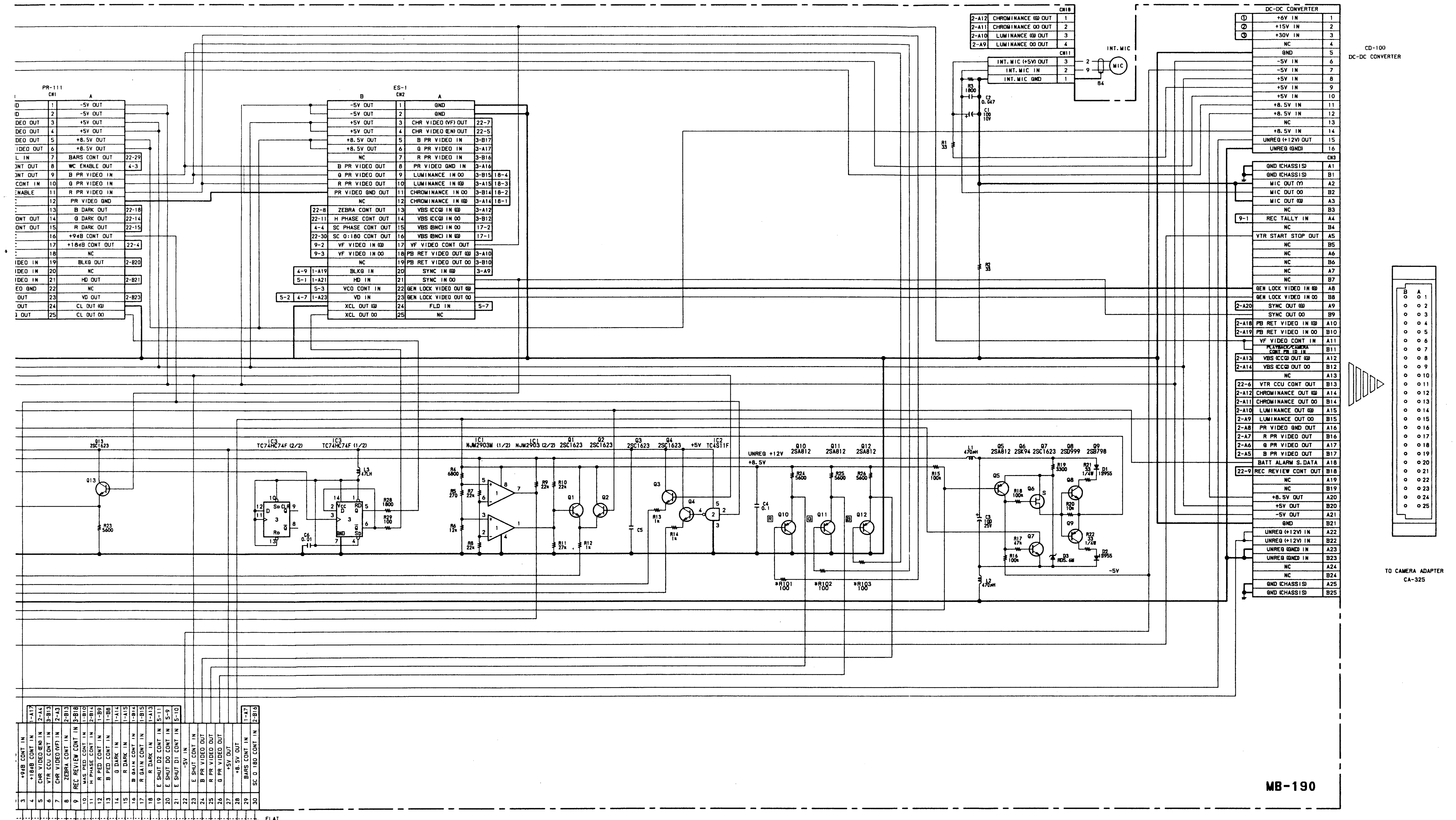
CN1	G-4
CN2	G-2
CN3	G-1
CN4	H-7
CN5	K-4
CN6	A-4
CN7	B-9
CN8	A-8
CN9	F-9
CN10	A-6
CN11	L-2
CN13	D-9
CN14	H-5
CN15	H-5
CN16	I-5
CN17	H-3
CN18	L-1
CN19	A-4
CN21	I-3
CN22	E-7
D1	H-10
D2	H-10
D3	E-10
IC1	M-4
IC2	I-8
IC3	K-3
PU1	B-2
Q1	M-5
Q2	L-5
Q3	I-8
Q4	I-9
Q5	E-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-9
Q11	I-9
Q12	I-9

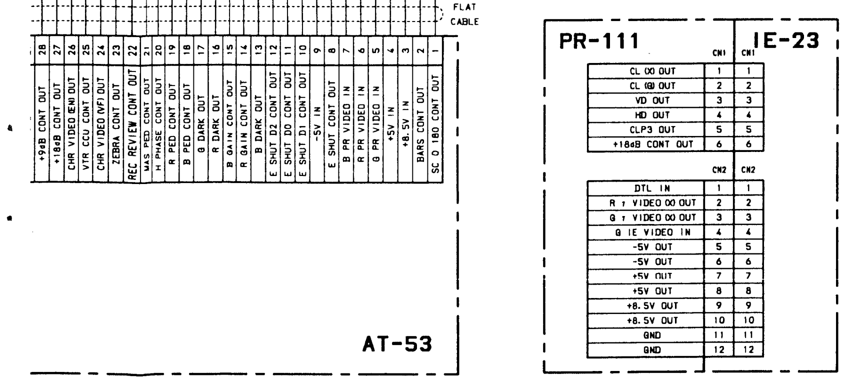

CN105 OPTION
CN103 LENS — WIRING SIDE —
CN101 VF (FEMALE) — WIRING SIDE —
CN102 TITLE (FEMALE) — WIRING SIDE —
CN104 VIDEO OUT (BNC)
PA-74 (B)
B CCD
PRISM
G CCD
PA-75 (G)
R CCD
PA-73 (R)
BC-15
TG-38
DR-68
CN-242
PR-111
Q13 2SC1623
R23 5600
FLAT CABLE
S102 POWER ON OFF
SW101 AUTO W/B BALANCE BLK WHT
S3 VTR
S1 UP/ON
S2 DOWN/OFF
R1 47
SW-282
S1 GAIN 0dB 9dB 18dB
S2 3200°K AUTO BARS
BARS WB
SW-281

C-45

C-46

DXC-325 (J, UC)
DXC-325P (EK)


PR-111
ES-1
CN2
CD-100
DC-DC CONVERTER
INT. MIC
MIC
IC3 TC74HC74F (2/2)
IC3 TC74HC74F (1/2)
IC1 NJM2903M (1/2)
IC1 NJM2903 (2/2)
IC2 TC4S11F
Q13 2SC1623
UNREG +12V
+8.5V
-5V
TO CAMERA ADAPTER
CA-325
MB-190


FLAT CABLE
AT-53
PR-111
IE-23
CN1
CN2

* CHANGE INFORMATION

BOARD	REF. NO	DESCRIPTION	EFECTIVE SER. NO
MB-190	R101. R102 R103	100 ADD	10921 - (UC) 30611 - (J) 41521 - (EK)

FRAME WIRING

MB-190 BOARD
SW-281 BOARD
SW-282 BOARD
DXC-325 (J, UC)
DXC-325P (EK)

SECTION D
SPARE PARTS

D-1. PARTS INFORMATION

1. **Safety Related Component Warning**

   Components identified by shading marked with ! on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to **"accommodating the improved parts and/or engineering changes"** or **"standardization of genuine parts."** This manual's exploded view and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present." Regarding engineering parts and diagrams changes in our engineering department, refer SONY service bulletions and service manual supplements.

3. **The parts marked with "S" in the SP column** of the exploded views and electical spare parts list are nomally required for routine service work. Orders for parts marked with "O" will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

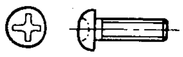
5. **Abbreviation**

REF.No.	DESCRIPTION	REF.No.	DESCRIPTION	REF.No.	DESCRIPTION
C	CAPACITOR	IC	IC	RP	RESISTOR BLOCK
CN	CONNECTOR	J	JACK	RV	VARIABLE RESISTOR
CV	VARIABLE CAPACITOR	L	INDUCTOR	S	SWITCH
D	DIODE	LV	VARIABLE INDUCTOR	T	TRANSFORMER
DL	DELAY LINE	Q	TRANSISTOR	X	OSCILLATOR
FL	FILTER	R	RESISTOR		

All capacitors are in micro farads unless otherwise specified.
All inductors are in micro henries unless otherwise specified.
All resistors are in ohms.

D-2. SCREWS

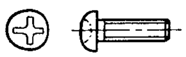
+B
Bzn-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-00
x 4	772-10
x 5	772-20
x 6	772-30
x 8	772-40
x 10	772-50
x 12	772-60
x 14	772-70
x 16	772-80
x 20	–
2.6 x 3	775-00
x 4	775-10
x 5	775-20
x 6	773-95
x 8	775-40
x 10	775-50
x 12	775-60
x 14	775-70
x 16	775-80
x 20	775-90

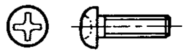
+B
Cr-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-08
x 4	772-18
x 5	771-06
x 6	772-38
x 8	772-48
x 10	772-58
x 12	772-68
x 14	772-78
x 16	772-88
x 20	–
2.6 x 3	775-08
x 4	773-86
x 5	770-87
x 6	770-67
x 8	770-99
x 10	773-87
x 12	775-68
x 14	775-78
x 16	775-88
x 20	773-91

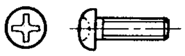
+B
Bzn-N



7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-09
x 4	545-09
x 5	546-09
x 6	547-09
x 8	548-09
x 10	549-09
x 12	550-09
x 14	551-09
x 16	552-09
x 20	553-09
x 30	555-09
4 x 4	558-09
x 5	559-09
x 6	560-09
x 8	561-09
x 10	562-09
x 12	563-09
x 14	564-09
x 16	565-09
x 20	566-09
5 x 8	574-09
x 10	575-09
x 12	576-09
x 14	577-09
x 16	578-09
x 20	579-09

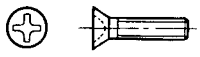
+B
Cr-N



7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-04
x 4	545-04
x 5	546-04
x 6	547-04
x 8	548-04
x 10	549-04
x 12	550-04
x 14	551-04
x 16	552-04
x 20	553-04
4 x 4	558-04
x 5	559-04
x 6	560-04
x 8	561-04
x 10	562-04
x 12	563-04
x 14	564-04
x 16	565-04
x 20	566-04
5 x 8	574-04
x 10	575-04
x 12	576-04
x 14	577-04
x 16	578-04
x 20	579-04

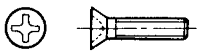
+K
Cr-N



7-682-□□□-□□

SIZE	Parts No.
3 x 4	245-04
x 5	246-04
x 6	247-04
x 8	248-04
x 10	249-04
x 12	250-04
x 14	251-04
x 16	252-04
x 20	253-04
4 x 6	260-04
x 8	261-04
x 10	262-04
x 12	263-04
x 14	264-04
x 16	265-04
x 20	266-04

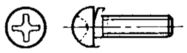
PRECISION +K
Bzn-N



7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.8	–
x 2	450-28
x 2.2	–
x 2.5	450-48
x 2.8	–
x 3	450-58
x 3.5	–
x 4	450-78
x 4.5	–
x 5	450-98
x 5.5	–
x 6	–
2 x 2	452-08
x 2.2	452-88
x 2.5	452-48
x 2.8	–
x 3	452-18
x 3.5	452-98
x 4	452-28
x 4.5	–
x 5	452-38
x 5.5	–
x 6	452-58
x 7	452-68
x 8	452-78
2.6 x 3.5	–
x 4	–
x 4.5	454-28
x 5	454-38
x 5.5	–
x 6	–
x 7	–
x 8	–

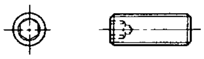
PRECISION +P
Bzn-N



7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.6	552-18
x 1.8	–
x 2	552-28
x 2.2	–
x 2.5	552-08
x 2.8	–
x 3	552-38
x 3.5	552-78
x 4	552-48
x 4.5	–
x 5	552-58
x 5.5	–
x 6	–
2 x 1.8	554-38
x 2	553-18
x 2.2	–
x 2.5	553-28
x 2.8	554-58
x 3	553-38
x 3.5	554-18
x 4	553-48
x 4.5	553-58
x 5	554-28
x 5.5	–
x 6	553-68
x 7	553-88
x 8	553-98
x 10	553-78
2.6 x 2.8	556-08
x 3	–
x 3.5	556-28
x 4	556-38
x 4.5	556-48
x 5	556-58
x 5.5	–
x 6	556-78
x 7	–
x 8	–
x 9	–
x 10	–

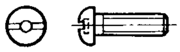
HEXAGON SET SCREW (FLAT)
SNCM6-PD



7-621-□□□-□□

SIZE	Parts No.
2 x 2.5	731-08
2 x 3	732-08
2 x 4	733-08
2 x 5	–
2 x 6	–
2.6 x 3	737-08
2.6 x 4	738-08
2.6 x 5	739-08
2.6 x 6	740-08

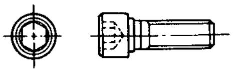
TOTSU B
Bzn-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	911-00
x 4	911-10
x 6	911-30
x 8	911-40
2.6 x 3	912-00
x 4	912-10
x 5	912-20
x 6	912-30
x 8	912-40
x 10	912-50
x 12	912-60
x 14	912-70
x 16	912-80
x 20	912-90

BOLT, HEXAGON SOCKET
SNCM6 BZn-N4



7-683-□□□-□□

SIZE	Parts No.
3 x 4	401-04
3 x 5	402-04
3 x 6	403-04
3 x 8	404-04
3 x 10	405-04
3 x 12	406-04
3 x 14	407-04
3 x 16	408-04
3 x 20	410-04
4 x 5	417-04
4 x 6	418-04
4 x 8	419-04
4 x 10	420-04
4 x 12	421-04
4 x 14	422-04
4 x 16	423-04
4 x 20	425-04
4 x 25	427-04
5 x 8	434-04
5 x 10	435-04
5 x 12	436-04
5 x 14	437-04
5 x 16	438-04
5 x 20	440-04
5 x 25	442-04
5 x 30	444-04
5 x 50	447-04
6 x 10	452-04
6 x 12	453-04
6 x 14	454-04
6 x 16	455-04
6 x 20	457-04
6 x 25	459-04
6 x 30	461-04
6 x 35	463-04
6 x 40	465-04
6 x 45	466-04
6 x 55	468-04
8 x 12	470-04
8 x 14	471-04
8 x 16	472-04
8 x 20	473-04
8 x 25	474-04
8 x 30	475-04
8 x 35	476-04
8 x 40	477-04
8 x 45	478-04
8 x 50	479-04

D-3. EXPLODED VIEW

[CCD BLOCK]

No.	Parts No.	SP	Description
1	A-7575-123-A	s	CCD UNIT ASSY (N)
	A-7575-124-A	s	CCD UNIT ASSY (P)
2	A-7513-829-A	o	MOUNTED CIRCUIT BOARD (N) "TG-38" Ser No. 10001 to 11720(UC) 30001 to 30840(J) 40001 to 42530(EK)
	A-7515-001-A	o	MOUNTED CIRCUIT BOARD (N) "TG-38" Ser No. 11721 and higher(UC) 30841 and higher(J) 42531 and higher(EK)
	A-7513-830-A	o	MOUNTED CIRCUIT BOARD (P) "TG-38" Ser No. 10001 to 11720(UC) 30001 to 30840(J) 40001 to 42530(EK)
	A-7513-998-A	o	MOUNTED CIRCUIT BOARD (P) "TG-38" Ser No. 11721 and higher(UC) 30841 and higher(J) 42531 and higher(EK)
3	A-7513-831-A	s	MOUNTED CIRCUIT BOARD "PA-73"
4	A-7513-832-A	s	MOUNTED CIRCUIT BOARD "PA-74"
5	A-7513-833-A	s	MOUNTED CIRCUIT BOARD "PA-75"
6	A-7513-835-A	s	MOUNTED CIRCUIT BOARD "DR-68" Ser No. 10001 to 11720(UC) 30001 to 30840(J) 40001 to 42530(EK)
	A-7513-997-A	o	MOUNTED CIRCUIT BOARD "DR-68" Ser No. 11721 and higher(UC) 30841 and higher(J) 42531 and higher(EK)
7	A-7513-836-A	s	MOUNTED CIRCUIT BOARD "CN-242"
8	1-547-301-11	o	FILTER UNIT, OPTICAL Ser No. 10001 to 10570(UC) 40001 to 40920(EK)
	1-547-301-12	o	FILTER UNIT, OPTICAL Ser No. 10571 and higher(UC) 40921 and higher(EK)
9	1-553-739-21	s	SWITCH, KEY BOARD "VTR" "UP/ON"
10	1-554-486-00	s	SWITCH, TOGGLE "AUTO W/B BAL"
11	1-627-922-11	s	PRINTED CIRCUIT BOARD "SW-282"
12	3-672-253-11	o	RUBBER, CONDUCTIVE
13	3-676-244-00	s	COVER, SWITCH
14	3-678-629-00	s	LEVER, MOUNT
15	3-678-632-00	o	PACKING, KNOB
16	3-678-684-00	o	HOLDER, CABLE
17	3-699-047-01	s	KNOB, FILTER
18	3-699-106-01	o	PANEL, FRONT
19	3-699-112-01	o	LABEL, RED
20	3-699-133-01	o	COVER, BLOCK SHIELD
21	3-699-144-01	s	CAP, MOUNT
22	3-699-146-01	o	PLATE, BLOCK SHIELD
23	3-701-506-01	s	SET SCREW, DUBLE POINT 3x4

[CHASSIS (1) BLOCK]

No.	Parts No.	SP	Description
1	A-7420-144-A	o	HANDLE ASSY
2	X-3664-212-2	s	SHOE ASSY (B), T
3	1-542-112-11	s	MICROPHONE (C-2025)
4	1-553-972-00	s	SWITCH, TOGGLE "POWER"
5	1-561-320-00	s	SOCKET, DIN 8P "VF"
6	1-561-781-41	s	CONNECTOR, BNC "VIDEO OUT"
7	1-565-653-11	s	CONNECTOR, SMALL TYPE 8P "TITLE"
8	1-570-854-11	s	SWITCH, SLIDE "GAIN" "BARS WB"
9	1-627-915-11	o	PRINTED CIRCUIT BOARD "SW-281"
10	2-277-468-01	s	PLATE, ORNAMENTAL, CAMERA SHOE (B)
11	3-641-622-00	s	SPRING, COMPRESSION
12	3-657-700-00	o	BRACKET ACCESSORY
13	3-664-213-00	o	SCREW, STOPPER
14	3-664-218-00	o	SHOE
15	3-664-228-00	o	PLATE, SPRING
16	3-672-213-00	s	SHEET, ADHESIVE
17	3-675-963-02	s	FOOT, FRONT, RUBBER
18	3-675-964-01	s	FOOT, REAR, RUBBER
19	3-675-965-01	s	SPACER
20	3-676-379-00	s	SCREW, BUSHING (M5)
21	3-680-605-00	o	CAP, SLIDE
22	3-682-718-02	o	SHOE, VF SLIDE
23	3-682-758-01	o	SPACER
24	3-682-759-01	o	RING, LOCK
25	3-682-760-01	o	SCREW (M7-0.75), ADJUSTMENT
26	3-699-110-01	o	BRACKET (A)
27	3-699-111-01	o	BRACKET (B)
28	3-699-113-02	o	PLATE, CONNECTOR
29	1-562-222-41	s	RECEPTACLE, 6P FEMALE
30	3-699-126-01	o	PLATE, BLIND
31	3-699-129-01	o	STOPPER, SW
33	3-699-131-01	o	GUIDE, PC BOARD
34	3-699-132-01	o	LABEL, SW
35	3-699-145-01	o	PLATE, GROUND
36	3-699-176-01	o	STOPPER (2)
37	1-562-151-11	o	PLUG, HOUSING 6P
38	X-2536-714-1	o	WINDSCREEN ASSY
39	3-699-104-02	o	CABINET

[CHASSIS (2) BLOCK]

No.	Parts No.	SP	Description
1	A-7420-141-B	o	PLATE (RIGHT) (N) ASSY, SIDE
	A-7420-142-A	o	PLATE (RIGHT) (P) ASSY, SIDE Ser No. 40001 to 40150
	A-7420-142-B	o	PLATE (RIGHT) (P) ASSY, SIDE Ser No. 40151 and higher
2	A-7420-143-A	o	PLATE (LEFT) ASSY, SIDE
3	A-7513-837-A	o	MOUNTED CIRCUIT BOARD"AT-53"
4	A-7513-838-A	o	MOUNTED CIRCUIT BOARD"MB-190"
5	A-7513-839-A	o	MOUNTED CIRCUIT BOARD (N) "ES-1"
	A-7513-843-A	o	MOUNTED CIRCUIT BOARD (P) "ES-1"
6	A-7513-840-A	o	MOUNTED CIRCUIT BOARD (N) "MX-18"
	A-7513-844-A	o	MOUNTED CIRCUIT BOARD (P) "MX-18"
7	A-7513-841-A	o	MOUNTED CIRCUIT BOARD (N) "CM-22"
	A-7513-845-A	o	MOUNTED CIRCUIT BOARD (P) "CM-22"
8	A-7513-842-A	o	MOUNTED CIRCUIT BOARD"BKG-4" (NTSC ONLY)
9	A-7513-846-A	o	MOUNTED CIRCUIT BOARD (N) "PR-111"
	A-7513-847-A	o	MOUNTED CIRCUIT BOARD (P) "PR-111"
10	A-7513-848-A	o	MOUNTED CIRCUIT BOARD"PR-109"
11	A-7513-849-A	o	MOUNTED CIRCUIT BOARD"VA-70R"
12	A-7513-850-A	o	MOUNTED CIRCUIT BOARD"VA-70G"
13	A-7513-851-A	o	MOUNTED CIRCUIT BOARD"VA-70B"
14	A-7513-853-A	o	MOUNTED CIRCUIT BOARD (N) "IE-23"
	A-7513-854-A	o	MOUNTED CIRCUIT BOARD (P) "IE-23"
15	1-237-605-11	s	RES, VER, METAL 10K "PHASE H" "PHASE SC"

No.	Parts No.	SP	Description
16	1-554-303-11	s	SWITCH,PUSH "REC REVIEW"
17	1-554-364-00	s	SWITCH, SLIDE "DISP CHG"
18	1-570-865-11	s	SWITCH, SLIDE "SC" "SHUTTER" "ABC" "ZEBRA"
19	1-571-678-11	s	SWITCH, ROTARY "SHUTTER SPEED"
20	1-574-144-11	o	WIRE, FLAT TYPE (10 CORE)
21	1-574-145-11	o	WIRE, FLAT TYPE (30 CORE)
22	3-672-253-11	o	RUBBER, CONDUCTIVE
23	3-676-244-00	s	COVER, SWITCH
24	3-680-605-00	o	CAP, SLIDE
25	3-699-107-01	o	PLATE (RIGHT), SIDE
26	3-699-121-01	o	PLATE, SLIDE Ser No. 40001 to 40150(EK)
	3-699-121-02	o	PLATE, SLIDE Ser No. 10001 and higher(UC) 40151 and higher(EK)
27	3-699-122-01	o	LABEL (B), SW (N)
	3-699-122-11	o	LABEL (B), SW (P)
28	3-699-125-01	s	KNOB, DISPCHG
29	3-699-126-01	o	PLATE, BLIND
30	3-699-127-01	o	BRACKET (A), AT Ser No. 10001 to 10570(UC) 40001 to 40920(EK)
	3-699-170-01	o	BRACKET (UPPER), AT Sre No. 10571 and higher(UC) 30361 and higher(J) 40921 and higher(EK)
31	3-699-128-01	o	BRACKET (B), AT Ser No. 10001 to 10570(UC) 40001 to 40920(EK)
	3-699-171-01	o	BRACKET (LOWER), AT Sre No. 10571 and higher(UC) 40921 and higher(EK)
32	3-699-135-01	o	PLATE, SW
33	3-699-136-01	o	LABEL (A), SW
34	3-699-137-01	s	PAD (C), SIDE
35	3-699-178-01	o	PLATE, SHIELD ES Ser NO. 42081 and higher(EK)
36	3-699-179-01	o	PLATE, SHIELD IE Ser No. 11271 and higher(UC) 30811 and higher(J) 42081 and higher(EK)

D-5. ELECTRICAL PARTS

CAPACITOR, CHIP TANTALUM

0.1uF - 47uF +-10%/+-20% 6.3V/10V/16V/20V/25V/35V

Part No.	SP	Description
1-135-070-00	s	CAP, CHIP TANTALUM 0.1 10% 35V
1-135-071-21	s	CAP, CHIP TANTALUM 0.15 10% 35V
1-135-072-21	s	CAP, CHIP TANTALUM 0.22 10% 35V
1-135-073-00	s	CAP, CHIP TANTALUM 0.33 10% 35V
1-135-083-00	s	CAP, CHIP TANTALUM 0.47 10% 25V
1-135-074-21	s	CAP, CHIP TANTALUM 0.47 10% 35V
1-135-087-21	s	CAP, CHIP TANTALUM 0.68 10% 20V
1-135-075-21	s	CAP, CHIP TANTALUM 0.68 10% 35V
1-135-091-21	s	CAP, CHIP TANTALUM 1.0 10% 16V
1-135-076-21	s	CAP, CHIP TANTALUM 1.0 10% 35V
1-135-084-21	s	CAP, CHIP TANTALUM 1.5 10% 25V
1-135-077-21	s	CAP, CHIP TANTALUM 1.5 10% 35V
1-135-088-21	s	CAP, CHIP TANTALUM 2.2 10% 20V
1-135-078-21	s	CAP, CHIP TANTALUM 2.2 10% 35V
1-135-092-21	s	CAP, CHIP TANTALUM 3.3 10% 16V
1-135-079-21	s	CAP, CHIP TANTALUM 3.3 10% 35V
1-135-096-21	s	CAP, CHIP TANTALUM 4.7 10% 10V
1-135-085-21	s	CAP, CHIP TANTALUM 4.7 10% 25V
1-135-100-21	s	CAP, CHIP TANTALUM 6.8 10% 6.3V
1-135-089-21	s	CAP, CHIP TANTALUM 6.8 10% 20V
1-135-093-21	s	CAP, CHIP TANTALUM 10 10% 16V
1-135-097-21	s	CAP, CHIP TANTALUM 15 10% 10V
1-135-101-21	s	CAP, CHIP TANTALUM 22 10% 6.3V
1-135-098-21	s	CAP, CHIP TANTALUM 47 10% 6.3V

CAPACITOR, CHIP CERAMIC

1pF - 4pF CH +-0.25pF 50V
6pF - 8pF CH +-0.5pF 50V
10pF - 1000pF CH +-5% 50V
1500pF - 6800pF B +-10% 50V
0.01uF - 0.015uF B +-10% 50V
0.033uF - 0.047uF F +80/-20% 50V
0.068uF - 0.1uF F +80/-20% 25V

Part No.	SP	Description
1-163-083-00	s	CAP, CHIP CERAMIC 1pF +-0.25pF 5
1-163-085-00	s	CAP, CHIP CERAMIC 2pF +-0.25pF 5
1-163-087-00	s	CAP, CHIP CERAMIC 4pF +-0.25pF 5
1-163-089-00	s	CAP, CHIP CERAMIC 6pF +-0.5pF 50
1-163-091-00	s	CAP, CHIP CERAMIC 8pF +-0.5pF 50
1-163-093-00	s	CAP, CHIP CERAMIC 10pF 5% 50V
1-163-097-00	s	CAP, CHIP CERAMIC 15pF 5% 50V
1-163-101-00	s	CAP, CHIP CERAMIC 22pF 5% 50V
1-163-105-00	s	CAP, CHIP CERAMIC 33pF 5% 50V
1-163-109-00	s	CAP, CHIP CERAMIC 47pF 5% 50V
1-163-113-00	s	CAP, CHIP CERAMIC 68pF 5% 50V
1-163-117-00	s	CAP, CHIP CERAMIC 100pF 5% 50V
1-163-121-00	s	CAP, CHIP CERAMIC 150pF 5% 50V
1-163-125-00	s	CAP, CHIP CERAMIC 220pF 5% 50V
1-163-129-00	s	CAP, CHIP CERAMIC 330pF 5% 50V
1-163-133-00	s	CAP, CHIP CERAMIC 470pF 5% 50V
1-163-137-00	s	CAP, CHIP CERAMIC 680pF 5% 50V
1-163-141-00	s	CAP, CHIP CERAMIC 1000pF 5% 50V
1-163-145-00	s	CAP, CHIP CERAMIC 1500pF 10% 50V
1-163-013-00	s	CAP, CHIP CERAMIC 2200pF 10% 50V
1-163-015-00	s	CAP, CHIP CERAMIC 3300pF 10% 50V
1-163-017-00	s	CAP, CHIP CERAMIC 4700pF 10% 50V
1-163-019-00	s	CAP, CHIP CERAMIC 6800pF 10% 50V
1-163-021-00	s	CAP, CHIP CERAMIC 0.01 10% 50V
1-163-023-00	s	CAP, CHIP CERAMIC 0.015 10% 50V
1-163-034-00	s	CAP, CHIP CERAMIC 0.033 50V
1-163-035-00	s	CAP, CHIP CERAMIC 0.047 50V
1-163-036-00	s	CAP, CHIP CERAMIC 0.068 50V
1-163-038-00	s	CAP, CHIP CERAMIC 0.1 50V

RESISTOR, CHIP

1/10W
0 - 3.3M (E12) +-5% 1/10W

Part No.	SP	Description
1-216-295-00	s	RES, CHIP 0 5% 1/10W
1-216-298-00	s	RES, CHIP 2.2 5% 1/10W
1-216-302-00	s	RES, CHIP 2.7 5% 1/10W
1-216-304-00	s	RES, CHIP 3.3 5% 1/10W
1-216-306-00	s	RES, CHIP 3.9 5% 1/10W
1-216-308-00	s	RES, CHIP 4.7 5% 1/10W
1-216-309-00	s	RES, CHIP 5.6 5% 1/10W
1-216-311-00	s	RES, CHIP 6.8 5% 1/10W
1-216-313-00	s	RES, CHIP 8.2 5% 1/10W
1-216-001-00	s	RES, CHIP 10 5% 1/10W
1-216-003-00	s	RES, CHIP 12 5% 1/10W
1-216-005-00	s	RES, CHIP 15 5% 1/10W
1-216-007-00	s	RES, CHIP 18 5% 1/10W
1-216-009-00	s	RES, CHIP 22 5% 1/10W
1-216-011-00	s	RES, CHIP 27 5% 1/10W
1-216-013-00	s	RES, CHIP 33 5% 1/10W
1-216-015-00	s	RES, CHIP 39 5% 1/10W
1-216-017-00	s	RES, CHIP 47 5% 1/10W
1-216-019-00	s	RES, CHIP 56 5% 1/10W
1-216-021-00	s	RES, CHIP 68 5% 1/10W
1-216-023-00	s	RES, CHIP 82 5% 1/10W
1-216-025-00	s	RES, CHIP 100 5% 1/10W
1-216-027-00	s	RES, CHIP 120 5% 1/10W
1-216-029-00	s	RES, CHIP 150 5% 1/10W
1-216-031-00	s	RES, CHIP 180 5% 1/10W
1-216-033-00	s	RES, CHIP 220 5% 1/10W
1-216-035-00	s	RES, CHIP 270 5% 1/10W
1-216-037-00	s	RES, CHIP 330 5% 1/10W
1-216-039-00	s	RES, CHIP 390 5% 1/10W
1-216-041-00	s	RES, CHIP 470 5% 1/10W
1-216-043-00	s	RES, CHIP 560 5% 1/10W
1-216-045-00	s	RES, CHIP 680 5% 1/10W
1-216-047-00	s	RES, CHIP 820 5% 1/10W
1-216-049-00	s	RES, CHIP 1k 5% 1/10W
1-216-051-00	s	RES, CHIP 1.2k 5% 1/10W
1-216-053-00	s	RES, CHIP 1.5k 5% 1/10W
1-216-055-00	s	RES, CHIP 1.8k 5% 1/10W
1-216-057-00	s	RES, CHIP 2.2k 5% 1/10W
1-216-059-00	s	RES, CHIP 2.7k 5% 1/10W
1-216-061-00	s	RES, CHIP 3.3k 5% 1/10W
1-216-063-00	s	RES, CHIP 3.9k 5% 1/10W
1-216-065-00	s	RES, CHIP 4.7k 5% 1/10W
1-216-067-00	s	RES, CHIP 5.6k 5% 1/10W
1-216-069-00	s	RES, CHIP 6.8k 5% 1/10W
1-216-071-00	s	RES, CHIP 8.2k 5% 1/10W
1-216-073-00	s	RES, CHIP 10k 5% 1/10W
1-216-075-00	s	RES, CHIP 12k 5% 1/10W
1-216-077-00	s	RES, CHIP 15k 5% 1/10W
1-216-079-00	s	RES, CHIP 18k 5% 1/10W
1-216-081-00	s	RES, CHIP 22k 5% 1/10W
1-216-083-00	s	RES, CHIP 27k 5% 1/10W
1-216-085-00	s	RES, CHIP 33k 5% 1/10W
1-216-087-00	s	RES, CHIP 39k 5% 1/10W
1-216-089-00	s	RES, CHIP 47k 5% 1/10W
1-216-091-00	s	RES, CHIP 56k 5% 1/10W
1-216-093-00	s	RES, CHIP 68k 5% 1/10W
1-216-095-00	s	RES, CHIP 82k 5% 1/10W
1-216-097-00	s	RES, CHIP 100k 5% 1/10W
1-216-099-00	s	RES, CHIP 120k 5% 1/10W
1-216-101-00	s	RES, CHIP 150k 5% 1/10W
1-216-103-00	s	RES, CHIP 180k 5% 1/10W
1-216-105-00	s	RES, CHIP 220k 5% 1/10W
1-216-107-00	s	RES, CHIP 270k 5% 1/10W
1-216-109-00	s	RES, CHIP 330k 5% 1/10W
1-216-111-00	s	RES, CHIP 390k 5% 1/10W
1-216-113-00	s	RES, CHIP 470k 5% 1/10W
1-216-115-00	s	RES, CHIP 560k 5% 1/10W
1-216-117-00	s	RES, CHIP 680k 5% 1/10W
1-216-119-00	s	RES, CHIP 820k 5% 1/10W
1-216-121-00	s	RES, CHIP 1.0M 5% 1/10W
1-216-123-00	s	RES, CHIP 1.2M 5% 1/10W
1-216-125-00	s	RES, CHIP 1.5M 5% 1/10W
1-216-127-00	s	RES, CHIP 1.8M 5% 1/10W
1-216-129-00	s	RES, CHIP 2.2M 5% 1/10W
1-216-131-00	s	RES, CHIP 2.7M 5% 1/10W
1-216-133-00	s	RES, CHIP 3.3M 5% 1/10W

AT-53 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-837-A	o	MOUNTED CIRCUIT BOARD "AT-53"
C1	1-124-638-11	s	ELECT 22uF 20% 10V
C8	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C10	1-135-155-21	s	TANTAL, CHIP 4.7MF 20% 10V
C11	1-135-155-21	s	TANTAL, CHIP 4.7MF 20% 10V
C13	1-124-234-00	s	ELECT 22uF 20% 16V
C14	1-126-153-11	s	ELECT 22uF 20% 6.3V
C15	1-131-365-00	s	TANTALUM 10uF 10% 20V
C16	1-135-125-21	s	TANTALUM, CHIP 33uF 20% 10V
C17	1-131-365-00	s	TANTALUM 10uF 10% 20V
C18	1-123-661-00	s	ELECT 100uF 20% 6.3V
C20	1-135-155-21	s	TANTAL, CHIP 4.7MF 20% 10V
C21	1-124-638-11	s	ELECT 22uF 20% 10V
C22	1-131-365-00	s	TANTALUM 10uF 10% 20V
C24	1-124-638-11	s	ELECT 22uF 20% 10V
C25	1-124-638-11	s	ELECT 22uF 20% 10V
C26	1-135-155-21	s	TANTAL, CHIP 4.7MF 20% 10V
C27	1-135-155-21	s	TANTAL, CHIP 4.7MF 20% 10V
C28	1-131-375-00	s	TANTALUM 4.7uF 10% 10V
C29	1-131-375-00	s	TANTALUM 4.7uF 10% 10V
C32	1-124-255-00	s	ELECT 1uF 20% 50V
C33	1-124-589-11	s	ELECT 47uF 20% 16V
C34	1-124-638-11	s	ELECT 22uF 20% 10V
C35	1-123-611-00	s	ELECT 1uF 20% 50V
C36	1-123-611-00	s	ELECT 1uF 20% 50V
C37	1-130-489-00	s	MYLAR 0.033uF 5% 50V
C38	1-164-161-11	s	CERAMIC, CHIP 0.0022MF 10% 50V
C39	1-123-611-00	s	ELECT 1uF 20% 50V
C41	1-124-638-11	s	ELECT 22uF 20% 10V
C42	1-131-365-00	s	TANTALUM 10uF 10% 20V
C43	1-126-157-11	s	ELECT 10uF 20% 16V
C44	1-124-638-11	s	ELECT 22uF 20% 10V
C45	1-124-638-11	s	ELECT 22uF 20% 10V
C53	1-126-153-11	s	ELECT 22uF 20% 6.3V
C54	1-126-153-11	s	ELECT 22uF 20% 6.3V
C60	1-131-379-00	s	TANTALUM 22uF 10% 10V
C65	1-126-157-11	s	ELECT 10 20% 16V
C66	1-125-443-11	s	DOUBLE LAYERS 0.047F 5.5V
C67	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
CN1	1-566-512-11	s	CONNECTOR, FPC (ZIF) 12P
CN2	1-565-210-11	s	CONNECTOR, FPC (ZIF) 30P
CN3	1-506-485-11	o	CONNECTOR, 6P, MALE
CN4	1-506-468-11	o	CONNECTOR, 3P, MALE

Ref. No.	Part No.	SP	Description
D1	8-719-100-03	s	1S2835
D2	8-719-100-03	s	1S2835
D3	8-719-100-03	s	1S2835
D4	8-719-100-03	s	1S2835
D5	8-719-100-05	s	1S2837
D6	8-719-101-23	s	1SS123
D7	8-719-100-05	s	1S2837
D8	8-719-100-05	s	1S2837
D9	8-719-100-05	s	1S2837
D10	8-719-100-05	s	1S2837
D11	8-719-100-05	s	1S2837
D12	8-719-100-03	s	1S2835
D13	8-719-105-93	s	RD5.6M-B1
D14	8-719-100-03	s	1S2835
D16	8-719-100-05	s	1S2837
D18	8-719-101-23	s	1SS123
D19	8-719-100-03	s	1S2835
D20	8-719-100-05	s	1S2837
D21	8-719-100-05	s	1S2837
D22	8-719-100-03	s	1S2835
D23	8-719-100-05	s	1S2837
D24	8-719-100-03	s	1S2835
D25	8-719-100-05	s	1S2837
D26	8-719-100-03	s	1S2835
D27	8-719-100-05	s	1S2837
IC1	8-759-103-25	s	UPD4053BG: NEC
IC2	8-759-101-12	s	UPC311G2: NEC
IC3	8-759-700-07	s	NJM2903M: JRC
IC4	8-759-906-54	s	TL064CNS: TOSHIBA
IC5	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC6	8-759-908-17	s	TL082CPS: TI
IC7	8-759-906-54	s	TL064CNS: TI
IC8	8-759-200-82	s	TC4069UBF: TOSHIBA
IC9	8-759-303-31	s	HD44860B42: HITACHI
IC10	8-759-208-07	s	TC4051BFHB: TOSHIBA
IC11	8-759-208-07	s	TC4051BFHB: TOSHIBA
IC12	8-759-906-54	s	TL064CNS: TI
IC13	8-759-906-54	s	TL064CNS: TI
IC14	8-759-906-54	s	TL064CNS: TI
IC15	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC16	8-759-400-89	s	MN1237AD: MATSUSHITA
IC17	8-759-200-67	s	TC4001BF: TOSHIBA
IC18	8-759-200-82	s	TC4069UBF: TOSHIBA
IC19	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC20	8-759-209-90	s	TC4S71F: TOSHIBA
IC21	8-759-209-15	s	TC4SU69F: TOSHIBA
	Ser.No. 42081 and higher		

Ref. No.	Part No.	SP	Description
L1	1-408-789-21	s	CHIP 100μH
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-402-19	s	XN6501
Q6	8-729-402-19	s	XN6501
Q9	8-729-100-66	s	2SC1623-L6
Q10	8-729-402-16	s	XN4608
Q11	8-729-402-16	s	XN4608
Q12	8-729-109-41	s	2SK94-X1
Q13	8-729-100-66	s	2SC1623-L6
Q14	8-729-100-66	s	2SC1623-L6
Q15	8-729-100-66	s	2SC1623-L6
Q16	8-729-102-65	s	2SC2757-T32
Q17	8-729-102-65	s	2SC2757-T32
Q18	8-729-100-75	s	2SA812-M5
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-100-66	s	2SC1623-L6
Q27	8-729-100-66	s	2SC1623-L6
Q28	8-729-100-75	s	2SA812-M5
Q29	8-729-100-75	s	2SA812-M5
Q30	8-729-100-75	s	2SA812-M5
Q31	8-729-100-66	s	2SC1623-L6
Q32	8-729-100-66	s	2SC1623-L6
Q33	8-729-100-66	s	2SC1623-L6
Q34	8-729-100-66	s	2SC1623-L6
Q35	8-729-100-66	s	2SC1623-L6
Q36	8-729-100-66	s	2SC1623-L6
R161	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W
RB1	1-231-387-00	s	RESISTOR BLOCK
RV1	1-237-603-11	s	METAL 2.2K
RV2	1-237-606-11	s	METAL 22K
RV3	1-237-603-11	s	METAL 2.2K
RV4	1-237-609-11	s	METAL 220K
RV5	1-237-518-21	s	METAL 10K
RV6	1-237-518-21	s	METAL 10K
S1	1-553-510-00	s	SWITCH, SLIDE
S2	1-570-865-11	s	SWITCH, SLIDE
S3	1-570-865-11	s	SWITCH, SLIDE
S4	1-570-865-11	s	SWITCH, SLIDE
S5	1-570-865-11	s	SWITCH, SLIDE
S6	1-554-303-21	s	SWITCH, KEY BOARD
S7	1-554-364-00	s	SWITCH, SLIDE
S8	1-571-678-11	s	SWITCH, ROTARY
S9	1-553-510-00	s	SWITCH, SLIDE
X1	1-527-532-00	s	OSCILLATOR, CERAMIC

BC-15 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-834-A	o	MOUNTED CIRCUIT BOARD "BC-15"
C1	1-124-120-11	s	ELECT 220uF 20% 25V
C2	1-126-176-11	s	ELECT 220uF 20% 10V
CN1	1-566-257-11	o	CONNECTOR, BOARD TO BOARD 11P
CN2	1-566-257-11	o	CONNECTOR, BOARD TO BOARD 11P
CN5	1-562-156-11	o	HOUSING, CONNECTOR 11P
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
CN6	1-562-152-11	o	HOUSING, CONNECTOR 7P
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
CN7	1-562-738-11	o	HOUSING, CONNECTOR 5P
CN8	1-562-735-11	o	HOUSING, CONNECTOR 2P
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
CN21	1-562-148-11	o	HOUSING 3P

CN-242 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-836-A	o	MOUNTED CIRCUIT BOARD "CN-242"
C4	1-135-125-21	s	TANTALUM, CHIP 33uF 20% 10V
C15	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
CN1	1-563-688-21	o	CONNECTOR, BOARD TO BOARD 15P
CN2	1-563-686-21	o	CONNECTOR, BOARD TO BOARD 13P
CN3	1-565-160-11	o	PIN, CONNECTOR (ANGLE) 13P
CN4	1-565-150-11	o	PIN, CONNECTOR (ANGLE) 3P
CN5	1-565-160-11	o	PIN, CONNECTOR (ANGLE) 13P
CN6	1-565-151-11	o	PIN, CONNECTOR (ANGLE) 4P
CN7	1-565-160-11	o	PIN, CONNECTOR (ANGLE) 13P
CN8	1-565-150-11	o	PIN, CONNECTOR (ANGLE) 3P
D1	8-719-100-05	s	1S2837
D2	8-719-100-05	s	1S2837
D3	8-719-100-05	s	1S2837
IC1	8-759-204-96	s	TC74HC04F: TOSHIBA
IC2	8-759-204-96	s	TC74HC04F: TOSHIBA

DR-68 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-835-A	o	MOUNTED CIRCUIT BOARD "DR-68" Ser.No 10001 ~ 11720 (UC) 30001 ~ 30840 (J) 40001 ~ 42530 (EK)
	A-7513-997-A	o	MOUNTED CIRCUIT BOARD "DR-68" Ser.No 11721 ~ (UC) 30841 ~ (J) 42531 ~ (EK)
C1	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C4	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C5	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C7	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C8	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C9	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C10	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C11	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C13	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C14	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C22	1-163-119-00	s	CERAMIC, CHIP 120PF 5% 50V
C23	1-135-138-11	s	TANTAL, CHIP 10MF 20% 20V
C24	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C29	1-135-159-21	s	TANTAL, CHIP 10MF 20% 10V
C35	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C36	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C37	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C38	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C39	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C40	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C41	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
C42	1-135-091-00	s	TANTALUN, CHIP 1uF 20% 16V
CN1	1-566-257-11	o	CONNECTOR, BOARD TO BOARD 11P
CN2	1-566-277-21	o	CONNECTOR, BOARD TO BOARD 15P
CN3	1-566-275-21	o	CONNECTOR, BOARD TO BOARD 13P
CN4	1-566-258-11	o	CONNECTOR, BOARD TO BOARD 12P
D1	8-719-101-23	s	1SS123
D2	8-719-420-24	s	MA123
D3	8-719-420-23	s	MA122
D4	8-719-420-24	s	MA123
D5	8-719-420-23	s	MA122
D6	8-719-100-03	s	1S2835
D7	8-719-100-03	s	1S2835
D8	8-719-100-03	s	1S2835
D9	8-719-100-03	s	1S2835
D11	8-719-100-03	s	1S2835
D12	8-719-100-03	s	1S2835

Ref. No.	Part No.	SP	Description
IC1	8-759-205-00	s	TC74HC14F: TOSHIBA
IC2	8-759-204-98	s	TC74HC08F: TOSHIBA
IC3	8-759-100-95	s	UPC324G2: NEC
IC4	8-752-031-03	s	CXA1065M: SONY
IC5	8-752-031-03	s	CXA1065M: SONY
L1	1-408-783-00	s	CHIP 33μH
L2	1-408-797-11	s	CHIP 470μH
L3	1-408-783-00	s	CHIP 33μH
Q1	8-729-104-06	s	2SD999-CK
Q2	8-729-100-66	s	2SC1623-L6
Q3	8-729-216-22	s	2SA812-M5
Q4	8-729-216-22	s	2SA812-M5
Q5	8-729-100-66	s	2SC1623-L6
Q6	8-729-100-66	s	2SC1623-L6
Q7	8-729-100-66	s	2SC1623-L6
Q8	8-729-100-66	s	2SC1623-L6
Q9	8-729-100-66	s	2SC1623-L6
Q10	8-729-100-66	s	2SC1623-L6
Q11	8-729-216-22	s	2SA812-M5
Q12	8-729-112-65	s	2SA1462
Q13	8-729-110-67	s	NTM2369
Q14	8-729-100-66	s	2SC1623-L6
R1	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R2	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R36	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R37	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
RV1	1-230-873-11	s	METAL 47K
RV2	1-230-873-11	s	METAL 47K
RV3	1-230-873-11	s	METAL 47K
RV4	1-230-867-11	s	METAL 1K

ES-1 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-843-A	o	MOUNTED CIRCUIT BOARD "ES-1"(CM-22, MX-18)
C1	1-124-589-11	s	ELECT 47uF 20% 16V
C2	1-126-154-11	s	ELECT 47uF 20% 6.3V
C3	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C4	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C5	1-163-086-00	s	CERAMIC, CHIP 3PF 50V
C6	1-126-157-11	s	ELECT 10uF 20% 16V
C7	1-163-088-00	s	CERAMIC, CHIP 5PF 50V
C8	1-123-661-00	s	ELECT 100uF 20% 6.3V
C9	1-124-584-00	s	ELECT 100uF 20% 10V
C10	1-126-157-11	s	ELECT 10uF 20% 16V
C11	1-135-124-21	s	TANTALUM, CHIP 22uF 20% 10V
C12	1-124-638-11	s	ELECT 22uF 20% 10V
C13	1-124-638-11	s	ELECT 22uF 20% 10V
C14	1-124-589-11	s	ELECT 47uF 20% 16V
C16	1-124-589-11	s	ELECT 47uF 20% 16V
C18	1-126-157-11	s	ELECT 10uF 20% 16V
C19	1-163-090-00	s	CERAMIC, CHIP 7PF 50V
C20	1-124-638-11	s	ELECT 22uF 20% 10V
C21	1-126-157-11	s	ELECT 10uF 20% 16V
C22	1-126-157-11	s	ELECT 10uF 20% 16V
C23	1-123-661-00	s	ELECT 100uF 20% 6.3V
C24	1-124-589-11	s	ELECT 47uF 20% 16V
C26	1-124-638-11	s	ELECT 22uF 20% 10V
C28	1-124-234-00	s	ELECT 22uF 20% 16V
C30	1-126-176-11	s	ELECT 220uF 20% 10V
C34	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C36	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C37	1-123-661-00	s	ELECT 100uF 20% 6.3V
C38	1-163-099-00	s	CERAMIC, CHIP 18PF 5% 50V
C39	1-135-124-21	s	TANTALUM, CHIP 22uF 20% 10V
C42	1-131-381-00	s	TANTALUM 47uF 10% 10V
C44	1-126-176-11	s	ELECT 220uF 20% 10V
C46	1-126-157-11	s	ELECT 10uF 20% 16V
C56	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C60	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C61	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C63	1-163-245-00	s	CERAMIC, CHIP 56PF 5% 50V
C64	1-163-241-11	s	CERAMIC, CHIP 39PF 5% 50V
C70	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C203	1-126-157-11	s	ELECT 10uF 20% 16V
CN1	1-565-780-11	o	CONNECTOR,TX(P.L) (PC BOARD)50P
CP1	1-577-183-11	s	OSCILLATOR, CRYSTAL

Ref. No.	Part No.	SP	Description
D1	8-719-100-03	s	1S2835
D2	8-719-100-03	s	1S2835
	Ser.No. 42081 and higher		
DL1	1-415-306-00	s	340nS
FL1	1-235-181-00	s	BAND PASS 4.43MHz
IC1	8-759-933-79	s	UA711CNS: FSC
IC2	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC3	8-759-204-57	s	TC40H076AF: TOSHIBA
IC4	8-759-200-82	s	TC4069UBF: TOSHIBA
IC5	1-807-836-11	s	IC,SEP: SONY
IC6	1-808-513-12	s	IB-38: SONY Ser.No 41521 ~
IC7	8-759-907-81	s	SN74LS221NS: TI
IC8	8-741-134-00	s	BX1340: SONY
IC9	1-808-514-11	s	IB-37: SONY
IC10	8-757-930-11	s	CX7930A: SONY
L1	1-408-781-00	s	CHIP 22μH
L2	1-408-777-00	s	CHIP 10μH
L3	1-408-781-00	s	CHIP 22μH
L4	1-408-781-00	s	CHIP 22μH
L6	1-408-781-00	s	CHIP 22μH
L7	1-408-781-00	s	CHIP 22μH
L8	1-408-781-00	s	CHIP 22μH
L9	1-408-785-21	s	CHIP 47μH
L10	1-408-781-00	s	CHIP 22μH
L11	1-408-785-21	s	CHIP 47μH
L12	1-408-785-21	s	CHIP 47μH
L13	1-408-783-00	s	CHIP 33μH
L14	1-408-785-21	s	CHIP 47μH
L15	1-408-785-21	s	CHIP 47μH
L16	1-408-785-21	s	CHIP 47μH
L17	1-408-785-21	s	CHIP 47μH
L18	1-408-783-21	s	CHIP 33μH
L19	1-408-785-21	s	CHIP 47μH
L20	1-408-785-21	s	CHIP 47μH
L101	1-408-777-00	s	CHIP 10μH
L201	1-408-785-21	s	CHIP 47μH
LV1	1-408-844-00	s	22μH

Ref. No.	Part No.	SP	Description
Q1	8-729-402-16	s	XN4608
Q2	8-729-402-19	s	XN6501
Q3	8-729-100-75	s	2SA812-M5
Q4	8-729-402-19	s	XN6501
Q5	8-729-402-78	s	XN6401
Q6	8-729-100-66	s	2SC1623-L6
Q7	8-729-102-65	s	2SC2757-T32
Q8	8-729-100-75	s	2SA812-M5
Q9	8-729-402-19	s	XN6501
Q10	8-729-100-66	s	2SC1623-L6
Q11	8-729-100-66	s	2SC1623-L6
Q12	8-729-402-19	s	XN6501
Q13	8-729-402-19	s	XN6501
Q14	8-729-100-75	s	2SA812-M5
Q15	8-729-100-66	s	2SC1623-L6
Q20	8-729-109-41	s	2SK94-X1
R1	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R2	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R4	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R6	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R7	1-216-668-11	s	METAL, CHIP 5.1K 0.5% 1/10W
R8	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R9	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R10	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R11	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W
R12	1-218-254-11	s	METAL CHIP 2.55K 0.50% 1/10W
R13	1-218-259-11	s	METAL CHIP 13.7K 0.50% 1/10W
R14	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R15	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R17	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R21	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R22	1-216-624-11	s	METAL, CHIP 75 0.5% 1/10W
R26	1-218-254-11	s	METAL CHIP 2.55K 0.50% 1/10W
R27	1-218-257-11	s	METAL CHIP 4.99K 0.50% 1/10W
R30	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R31	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R33	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R37	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R44	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R45	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R47	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R74	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R78	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R79	1-216-649-11	s	METAL, CHIP 820 0.5% 1/10W
R85	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R87	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R108	1-216-661-11	s	METAL, CHIP 2.7K 0.5% 1/10W
R112	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R113	1-249-428-11	s	CARBON 8.2K 5% 1/4W
R201	1-249-417-11	s	CARBON 1K 5% 1/4W (EK) Ser No. 40001 to 41520
R202	1-249-429-11	s	CARBON 10K 5% 1/4W (EK) Ser No. 40001 to 41520
RV1	1-230-523-11	s	METAL 10K
RV2	1-230-519-11	s	METAL 470
RV3	1-238-221-11	s	METAL 2.2K
RV4	1-238-219-11	s	METAL 470
RV6	1-230-522-11	s	METAL 4.7K
RV7	1-230-521-11	s	METAL 2.2K

CM-22 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-845-A	o	MOUNTED CIRCUIT BOARD "CM-22"
C2	1-135-124-21	s	TANTALUM, CHIP 22uF 20% 10V
C5	1-135-124-21	s	TANTALUM, CHIP 22uF 20% 10V
C7	1-163-114-00	s	CERAMIC, CHIP 75PF 5% 50V
C9	1-163-114-00	s	CERAMIC, CHIP 75PF 5% 50V
CN1	1-564-549-11	o	PIN, BOARD TO BOARD 10P
IC1	8-759-906-59	s	CX22017: SONY
Q1	8-729-100-66	s	2SC1623-L6
Q2	8-729-100-66	s	2SC1623-L6
Q3	8-729-100-66	s	2SC1623-L6
R2	1-216-637-11	s	METAL, CHIP 270 0.5% 1/10W
R3	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R4	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R8	1-216-637-11	s	METAL, CHIP 270 0.5% 1/10W
R9	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R10	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R11	1-216-644-11	s	METAL, CHIP 510 0.5% 1/10W

MX-18 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-844-A	o	MOUNTED CIRCUIT BOARD "MX-18"
C1	1-163-090-00	s	CERAMIC, CHIP 7PF 50V
C3	1-163-099-00	s	CERAMIC, CHIP 18PF 5% 50V
C11	1-135-124-21	s	TANTALUM, CHIP 22uF 20% 10V
CN1	1-566-093-11	o	PIN, BOARD TO BOARD 8P
CN2	1-506-592-11	o	CONNECOTR, 4P
L1	1-408-795-21	s	CHIP 330μH
L2	1-408-795-21	s	CHIP 330μH
Q1	8-729-403-31	s	XN6435
Q2	8-729-402-16	s	XN4608
Q3	8-729-402-19	s	XN6501
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-402-78	s	XN6401
Q6	8-729-402-19	s	XN6501
Q7	8-729-100-66	s	2SC1623-L6
Q8	8-729-100-75	s	2SA812-M5
Q9	8-729-402-78	s	XN6401
R1	1-218-254-11	s	METAL CHIP 2.55K 0.50% 1/10W
R2	1-218-257-11	s	METAL CHIP 4.99K 0.50% 1/10W
R3	1-218-259-11	s	METAL CHIP 13.7K 0.50% 1/10W
R6	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R7	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R8	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R12	1-218-254-11	s	METAL CHIP 2.55K 0.50% 1/10W
R13	1-218-259-11	s	METAL CHIP 13.7K 0.50% 1/10W
R14	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R15	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R17	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R21	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R26	1-218-254-11	s	METAL CHIP 2.55K 0.50% 1/10W
R27	1-218-257-11	s	METAL CHIP 4.99K 0.50% 1/10W
R30	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R31	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R33	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R37	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
RV1	1-238-220-11	s	METAL 1K
RV2	1-228-394-00	s	METAL 4.7K
RV3	1-238-221-11	s	METAL 2.2K
RV4	1-238-219-11	s	METAL 470

IE-23 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-854-A	o	MOUNTED CIRCUIT BOARD "IE-23"
C2	1-131-361-00	s	TANTALUM 2.2MF 10% 20V
C3	1-126-154-11	s	ELECT 47uF 20% 6.3V
C7	1-163-098-00	s	CERAMIC, CHIP 16PF 5% 50V
C9	1-124-589-11	s	ELECT 47uF 20% 16V
C16	1-124-589-11	s	ELECT 47uF 20% 16V
C18	1-123-661-00	s	ELECT 100uF 20% 6.3V
C19	1-126-096-11	s	ELECT 10uF 20% 25V
C21	1-163-102-00	s	CERAMIC, CHIP 24PF 5% 50V
C24	1-126-154-11	s	ELECT 47uF 20% 6.3V
C25	1-124-589-11	s	ELECT 47uF 20% 16V
C26	1-131-377-00	s	TANTALUM 10uF 10% 10V
C32	1-131-365-00	s	TANTALUM 10uF 10% 20V
C33	1-126-096-11	s	ELECT 10uF 20% 25V
C35	1-126-096-11	s	ELECT 10uF 20% 25V
C36	1-126-096-11	s	ELECT 10uF 20% 25V
C37	1-126-096-11	s	ELECT 10uF 20% 25V
C40	1-124-589-11	s	ELECT 47uF 20% 16V
C42	1-126-176-11	s	ELECT 220uF 20% 10V
C43	1-124-120-11	s	ELECT 220uF 20% 25V
C44	1-124-638-11	s	ELECT 22uF 20% 10V
C46	1-124-229-00	s	ELECT 33uF 20% 10V
C49	1-131-361-00	s	TANTALUM 2.2MF 10% 20V
C51	1-124-638-11	s	ELECT 22uF 20% 10V
C52	1-124-638-11	s	ELECT 22uF 20% 10V
C53	1-124-638-11	s	ELECT 22uF 20% 10V
CN1	1-566-268-21	o	CONNECTOR, BOARD TO BOARD 6P
CN2	1-566-274-21	o	CONNECTOR, BOARD TO BOARD 12P
D1	8-719-105-28	s	RD2.4M-B
D2	8-719-100-05	s	1S2837
IC1	8-759-420-12	s	MN3801: MATHUSHITA
IC2	8-758-150-00	s	CX815: SONY
IC3	8-759-209-15	s	TC4SU69F: TOSHIBA
L1	1-408-422-00	s	120uH
L4	1-410-470-11	s	10uH
L5	1-408-413-00	s	22uH
L7	1-410-470-11	s	10uH
L8	1-410-470-11	s	10uH
L9	1-408-413-00	s	22uH Ser.No 40001 ~ 42080
L10	1-408-413-00	s	22uH
L11	1-408-425-00	s	220uH
L12	1-408-429-00	s	470uH

Ref. No.	Part No.	SP	Description
Q1	8-729-100-66	s	2SC1623-L6
Q3	8-729-100-66	s	2SC1623-L6
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-100-75	s	2SA812-M5
Q6	8-729-100-75	s	2SA812-M5
Q7	8-729-100-66	s	2SC1623-L6
Q8	8-729-100-75	s	2SA812-M5
Q9	8-729-100-75	s	2SA812-M5
Q10	8-729-100-75	s	2SA812-M5
Q12	8-729-122-63	s	2SA1226-E3
Q13	8-729-100-66	s	2SC1623-L6
Q14	8-729-122-63	s	2SA1226-E3
Q15	8-729-102-65	s	2SC2757-T32
Q16	8-729-102-65	s	2SC2757-T32
Q17	8-729-102-65	s	2SC2757-T32
Q18	8-729-100-66	s	2SC1623-L6
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-100-66	s	2SC1623-L6
Q21	8-729-100-66	s	2SC1623-L6
Q22	8-729-100-66	s	2SC1623-L6
Q23	8-729-109-41	s	2SK94-X1
Q24	8-729-100-66	s	2SC1623-L6
Q25	8-729-100-66	s	2SC1623-L6
Q27	8-729-100-75	s	2SA812-M5
Q28	8-729-100-66	s	2SC1623-L6
Q29	8-729-100-66	s	2SC1623-L6
Q30	8-729-100-66	s	2SC1623-L6
Q31	8-729-122-63	s	2SA1226-E4
Q32	8-729-100-66	s	2SC1623-L6
Q33	8-729-100-66	s	2SC1623-L6
Q34	8-729-122-63	s	2SA1226-E4
Q35	8-729-100-75	s	2SA812-M5
Q36	8-729-122-63	s	2SA1226-E4
Q37	8-729-100-75	s	2SA812-M5
Q38	8-729-100-75	s	2SA812-M5
Q39	8-729-100-66	s	2SC1623-L6
Q40	8-729-100-75	s	2SA812-M5
Q41	8-729-100-66	s	2SC1623-L6
Q42	8-729-100-75	s	2SA812-M5
Q43	8-729-100-75	s	2SA812-M5
Q44	8-729-100-75	s	2SA812-M5
R6	1-216-748-11	s	RES ,CHIP 39K 5% 1/10W
R13	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W
RV1	1-226-773-11	s	METAL 22K
RV2	1-226-772-11	s	METAL 4.7K
RV3	1-228-519-00	s	METAL 2.2K
RV4	1-226-772-11	s	METAL 4.7K
RV5	1-228-395-00	s	METAL 10K
RV6	1-226-702-00	s	METAL 2.2K
S1	1-553-977-00	s	SWITCH, SLIDE

MB-190 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-838-A	o	MOUNTED CIRCUIT BOARD "MB-190"
C1	1-124-584-00	s	ELECT 100uF 20% 10V
C3	1-124-148-00	s	ELECT 100uF 20% 25V
C7	1-124-148-00	s	ELECT 100uF 20% 25V
C8	1-124-148-00	s	ELECT 100uF 20% 25V
CN1	1-565-781-11	o	CONNECTOR,TX(S.S) (PC BOARD)50P
CN2	1-565-781-11	o	CONNECTOR,TX(S.S) (PC BOARD)50P
CN3	1-566-579-11	o	CONNECTOR, MULTI 50P
CN4	1-566-512-11	s	CONNECTOR, FPC (ZIF) 12P
CN5	1-506-490-21	o	PIN, CONNECTOR 11P
CN6	1-506-471-11	o	CONNECTOR, 6P, MALE
	1-562-151-11	o	PLUG HOUSING 6P
	1-564-026-11	o	PLUG CONTACT
CN7	1-566-199-11	o	PIN, CONNECTOR (PC BOARD) 6P
CN8	1-506-467-11	o	CONNECTOR, 2P, MALE
CN9	1-506-487-11	o	CONNECTOR, 8P, MALE
	1-562-153-11	o	PLUG HOUSING, 8P
	1-564-026-00	o	PLUG CONTACT
CN10	1-560-356-00	o	CONNECTOR POST HEADER, ILG (2P)
CN11	1-506-468-11	o	CONNECTOR, 3P, MALE
CN13	1-506-487-11	o	CONNECTOR, 8P, MALE
	1-562-153-11	o	PLUG HOUSING, 8P
	1-564-026-00	o	PLUG CONTACT
CN14	1-506-481-11	o	CONNECTOR, 2P, MALE
CN15	1-506-481-11	o	CONNECTOR, 2P, MALE
CN16	1-506-481-11	o	CONNECTOR, 2P, MALE
CN17	1-506-481-11	o	CONNECTOR, 2P, MALE
	1-562-147-11	o	PLUG HOUSING, 2P
	1-564-026-00	o	PLUG CONTACT
CN18	1-506-469-11	o	CONNECTOR, 4P, MALE
CN19	1-506-472-11	o	CONNECTOR, 7P, MALE
CN21	1-506-482-11	o	CONNECTOR, 3P, MALE
CN22	1-565-210-11	s	CONNECTOR, FPC (ZIF) 30P
D1	8-719-108-13	s	1S955
D2	8-719-108-13	s	1S955
D3	8-719-105-93	s	RD5.6M-B1
IC1	8-759-700-07	s	NJM2903M: JRC
IC2	8-759-209-69	s	TC4S11F-TE85L: TOSHIBA
IC3	8-759-205-06	s	TC74HC74F: TOSHIBA
L1	1-408-096-00	s	470UH
L2	1-408-096-00	s	470UH
L3	1-408-785-21	s	CHIP 47UH
PU1	1-466-039-11	s	DC-DC CONVERTER

Ref. No.	Part No.	SP	Description
Q1	8-729-100-66	s	2SC1623-L6
Q2	8-729-100-66	s	2SC1623-L6
Q3	8-729-100-66	s	2SC1623-L6
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-100-75	s	2SA812-M5
Q6	8-729-109-41	s	2SK94-X1
Q7	8-729-100-66	s	2SC1623-L6
Q8	8-729-199-91	s	2SD999-CM
Q9	8-729-101-07	s	2SB798-DL
Q10	8-729-100-75	s	2SA812-M5
Q11	8-729-100-75	s	2SA812-M5
Q12	8-729-100-75	s	2SA812-M5
Q13	8-729-100-66	s	2SC1623-L6
R4	1-216-671-11	s	METAL FILM CHIP 6.8K 0.5% 1/10W
	Ser.No. 40921 and higher		
R5	1-216-637-11	s	METAL FILM CHIP 270 0.5% 1/10W
	Ser.No. 40921 and higher		
R6	1-216-677-11	s	METAL FILM CHIP 12K 0.5% 1/10W
	Ser.No. 40921 and higher		
R7	1-216-683-11	s	METAL FILM CHIP 22K 0.5% 1/10W
	Ser.No. 40921 and higher		
R8	1-216-683-11	s	METAL FILM CHIP 22K 0.5% 1/10W
	Ser.No. 40921 and higher		
R21	1-249-399-11	s	CARBON 33 5% 1/4W
R22	1-249-399-11	s	CARBON 33 5% 1/4W
!R27	1-216-369-11	s	METAL OXIDE FILM 1 5% 2W

PA-73 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-831-A	o	MOUNTED CIRCUIT BOARD "PA-73"
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
	1-565-164-11	o	TERMINAL, SOLDERLESS
	1-566-987-11	o	TERMINAL, SOLDERLESS
C4	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C6	1-135-142-21	s	TANTAL, CHIP 22MF 20% 16V
C8	1-135-142-21	s	TANTAL, CHIP 22MF 20% 16V
C9	1-163-037-11	s	CERAMIC, CHIP 0.022uF 5% 25V
C22	1-163-037-11	s	CERAMIC, CHIP 0.022uF 5% 25V
C23	1-126-162-11	s	ELECT 3.3uF 20% 50V
C24	1-126-162-11	s	ELECT 3.3uF 20% 50V
C25	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V

Ref. No.	Part No.	SP	Description
CN1	1-565-794-11	o	HOUSING, CONNECTOR 13P
	1-565-132-11	o	HOUSING, CONNECTOR 13P
CN2	1-566-989-11	o	HOUSING, CONNECTOR 3P
	1-565-122-11	o	HOUSING, CONNECTOR 3P
CN3	1-562-147-11	o	HOUSING, CONNECTOR 2P
CV1	1-141-284-00	s	CAP, TRIMMER
D1	8-719-100-05	s	1S2837
LP1	1-235-839-11	s	FILTER, LOW PASS
Q1	8-729-102-65	s	2SC2757-T32
Q2	8-729-100-75	s	2SA812-M5
Q3	8-769-401-67	s	3SK163-1
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-100-75	s	2SA812-M5
Q6	8-769-401-67	s	3SK163-1
Q7	8-729-100-66	s	2SC1623-L6
Q11	8-729-100-75	s	2SA812-M5
Q12	8-769-401-67	s	3SK163-1
Q13	8-729-100-66	s	2SC1623-L6
Q17	8-729-100-66	s	2SC1623-L6
Q18	8-729-100-66	s	2SC1623-L6
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-100-66	s	2SC1623-L6
Q21	8-729-100-75	s	2SA812-M5
Q22	8-729-100-66	s	2SC1623-L6
Q24	8-729-100-66	s	2SC1623-L6
R3	1-216-678-11	s	METAL, CHIP 13K 0.5% 1/10W
R10	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W
R32	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R33	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R35	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R36	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R46	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W

PA-74 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-832-A	o	MOUNTED CIRCUIT BOARD "PA-74"
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
	1-565-164-11	o	TERMINAL, SOLDERLESS
	1-566-987-11	o	TERMINAL, SOLDERLESS
C4	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C6	1-131-367-00	s	TANTALUM 22uF 10% 20V
C8	1-131-367-00	s	TANTALUM 22uF 10% 20V
C9	1-163-037-11	s	CERAMIC, CHIP 0.022uF 5% 25V
C15	1-163-111-00	s	CERAMIC, CHIP 56PF 5% 50V
C22	1-163-037-11	s	CERAMIC, CHIP 0.022uF 5% 25V
C24	1-126-162-11	s	ELECT 3.3uF 20% 50V
C25	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C27	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
CN1	1-565-794-11	o	HOUSING, CONNECTOR 13P
	1-565-132-11	o	HOUSING, CONNECTOR 13P
CN2	1-566-989-11	o	HOUSING, CONNECTOR 3P
	1-565-122-11	o	HOUSING, CONNECTOR 3P
CN3	1-562-147-11	o	HOUSING, CONNECTOR 2P
CV1	1-141-284-00	s	CAP, TRIMMER
D1	8-719-100-05	s	1S2837
LP1	1-235-839-11	s	FILTER, LOW PASS
Q1	8-729-102-65	s	2SC2757-T32
Q2	8-729-100-75	s	2SA812-M5
Q3	8-769-401-67	s	3SK163-1
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-100-75	s	2SA812-M5
Q6	8-769-401-67	s	3SK163-1
Q7	8-729-100-66	s	2SC1623-L6
Q11	8-729-100-75	s	2SA812-M5
Q12	8-769-401-67	s	3SK163-1
Q13	8-729-100-66	s	2SC1623-L6
Q17	8-729-100-66	s	2SC1623-L6
Q18	8-729-100-66	s	2SC1623-L6
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-100-66	s	2SC1623-L6
Q21	8-729-100-75	s	2SA812-M5
Q22	8-729-100-66	s	2SC1623-L6
Q24	8-729-100-66	s	2SC1623-L6
R3	1-216-678-11	s	METAL, CHIP 13K 0.5% 1/10W
R10	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W
R32	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R33	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R35	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R36	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R46	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W

PA-75 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-833-A	o	MOUNTED CIRCUIT BOARD "PA-75"
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
	1-565-164-11	o	TERMINAL, SOLDERLESS
	1-566-987-11	o	TERMINAL, SOLDERLESS
C4	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C6	1-135-142-21	s	TANTAL, CHIP 22MF 20% 16V
C8	1-135-142-21	s	TANTAL, CHIP 22MF 20% 16V
C9	1-163-037-11	s	CERAMIC, CHIP 0.022uF 5% 25V
C22	1-163-037-11	s	CERAMIC, CHIP 0.022uF 5% 25V
C27	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
CN1	1-565-794-11	o	HOUSING, CONNECTOR 13P
	1-565-132-11	o	HOUSING, CONNECTOR 13P
CN2	1-566-990-11	o	HOUSING, CONNECTOR 4P
	1-565-123-11	o	HOUSING, CONNECTOR 4P
CN3	1-562-147-11	o	HOUSING, CONNECTOR 2P
CV1	1-141-284-00	s	CAP, TRIMMER
D1	8-719-100-05	s	1S2837
LP1	1-235-839-11	s	FILTER, LOW PASS
Q1	8-729-102-65	s	2SC2757-T32
Q2	8-729-100-75	s	2SA812-M5
Q3	8-769-401-67	s	3SK163-1
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-100-75	s	2SA812-M5
Q6	8-769-401-67	s	3SK163-1
Q7	8-729-100-66	s	2SC1623-L6
Q8	8-729-100-75	s	2SA812-M5
Q9	8-769-401-67	s	3SK163-1
Q10	8-729-100-66	s	2SC1623-L6

Ref. No.	Part No.	SP	Description
Q11	8-729-100-75	s	2SA812-M5
Q12	8-769-401-67	s	3SK163-1
Q13	8-729-100-66	s	2SC1623-L6
Q14	8-729-100-75	s	2SA812-M5
Q15	8-769-401-67	s	3SK163-1
Q16	8-729-100-66	s	2SC1623-L6
Q17	8-729-100-66	s	2SC1623-L6
Q18	8-729-100-66	s	2SC1623-L6
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-100-66	s	2SC1623-L6
Q21	8-729-100-75	s	2SA812-M5
Q22	8-729-100-66	s	2SC1623-L6
Q24	8-729-100-66	s	2SC1623-L6
R3	1-216-678-11	s	METAL, CHIP 13K 0.5% 1/10W
R10	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W
R22	1-216-088-00	s	METAL, CHIP 43K 5% 1/10W
R32	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R33	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R35	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R36	1-216-677-11	s	METAL, CHIP 12K 0.5% 1/10W
R46	1-216-748-11	s	METAL, CHIP 39K 1% 1/10W

PR-111 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-847-A	o	MOUNTED CIRCUIT BOARD "PR-111"(PR-109,VA-70R/G/B)
C1	1-124-638-11	s	ELECT 22uF 20% 10V
C2,C3, C4,C5	1-163-111-00	s	CERAMIC CHIP 56PF 5% 50V Ser No. 41521 and higher (EK)
C14	1-124-589-11	s	ELECT 47uF 20% 16V
C24	1-124-472-11	s	ELECT 470uF 20% 10V
C25	1-124-471-00	s	ELECT 1000uF 20% 6.3V
C26	1-124-471-00	s	ELECT 1000uF 20% 6.3V
C27	1-126-157-11	s	ELECT 10uF 20% 16V
C28	1-126-157-11	s	ELECT 10uF 20% 16V
C29	1-126-157-11	s	ELECT 10uF 20% 16V
C37	1-126-157-11	s	ELECT 10uF 20% 16V
C39	1-124-589-11	s	ELECT 47uF 20% 16V
C41	1-126-157-11	s	ELECT 10uF 20% 16V
C42	1-126-157-11	s	ELECT 10uF 20% 16V
C43	1-126-157-11	s	ELECT 10uF 20% 16V
C44	1-124-472-11	s	ELECT 470uF 20% 10V
C47	1-126-157-11	s	ELECT 10uF 20% 16V
C48	1-126-157-11	s	ELECT 10uF 20% 16V
C50	1-102-106-21	s	CERAMIC 100PF 10% 50V Ser.No 40001 ~ 42080
CN1	1-563-679-21	o	CONNECTOR, BOARD TO BOARD 6P
CN2	1-563-685-21	o	CONNECTOR, BOARD TO BOARD 12P
CN3	1-565-780-11	o	CONNECTOR,TX(P.L) (PC BOARD)50P

Ref. No.	Part No.	SP	Description
D1	8-719-100-05	s	1S2837
D2	8-719-100-05	s	1S2837
D3	8-719-100-05	s	1S2837
D4	8-719-911-19	s	1SS119 Ser.No 40001 ~ 42080
	8-719-100-03	s	1S2835 Ser.No 42081 ~
D6	8-719-914-12	s	HZ4BLL
D7	8-719-914-12	s	HZ4BLL
D8	8-719-914-12	s	HZ4BLL
D9	8-719-100-03	s	1S2835
D10	8-719-100-03	s	1S2835
D12	8-719-105-52	s	RD3.6M-B2
D13	8-719-105-52	s	RD3.6M-B2
DL1	1-415-307-00	s	165nS
DL2	1-415-307-00	s	165nS
DL3	1-415-307-00	s	165nS
IC1	8-759-204-40	s	TC40H027F: TOSHIBA
IC2	8-759-201-50	s	TC40H193F: TOSHIBA
IC3	8-759-201-63	s	TC40H032F: TOSHIBA
IC4	8-759-201-53	s	TC40H000F: TOSHIBA
IC5	8-759-209-97	s	TC4S81F: TOSHIBA
IC6	8-759-209-97	s	TC4S81F: TOSHIBA
IC7	8-759-204-51	s	TC40H008F: TOSHIBA
IC8	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC9	8-759-209-97	s	TC4S81F: TOSHIBA
IC10	8-759-209-97	s	TC4S81F: TOSHIBA
IC11	8-759-209-15	s	TC4SU69F: TOSHIBA
IC12	8-759-209-54	s	TC4S01F: TOSHIBA
IC13	8-759-209-15	s	TC4SU69F: TOSHIBA
IC14	8-759-209-90	s	TC4S71F: TOSHIBA
IC15	8-759-209-90	s	TC4S71F: TOSHIBA
IC16	8-759-209-90	s	TC4S71F: TOSHIBA
IC17	8-759-209-90	s	TC4S71F: TOSHIBA
Q1	8-729-102-65	s	2SC2757-T32
Q2	8-729-102-65	s	2SC2757-T32
Q3	8-729-102-65	s	2SC2757-T32
Q4	8-729-102-65	s	2SC2757-T32
Q5	8-729-109-41	s	2SK94-X1
Q6	8-729-100-66	s	2SC1623-L6
Q7	8-729-901-46	s	DTA114YK
Q8	8-729-900-52	s	DTC114YK
Q9	8-729-900-52	s	DTC114YK
Q10	8-729-100-75	s	2SA812-M5
Q11	8-729-100-75	s	2SA812-M5
Q12	8-729-100-75	s	2SA812-M5
Q13	8-729-100-66	s	2SC1623-L6
Q14	8-729-100-75	s	2SA812-M5
Q15	8-729-100-75	s	2SA812-M5

Ref. No.	Part No.	SP	Description
Q16	8-729-100-66	s	2SC1623-L6
Q17	8-729-100-75	s	2SA812-M5
Q18	8-729-100-66	s	2SC1623-L6
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-100-66	s	2SC1623-L6
Q21	8-729-100-66	s	2SC1623-L6
Q22	8-729-100-66	s	2SC1623-L6
Q23	8-729-100-66	s	2SC1623-L6
Q24	8-729-100-66	s	2SC1623-L6
Q25	8-729-100-66	s	2SC1623-L6
Q26	8-729-901-46	s	DTA114YK
Q31	8-729-100-75	s	2SA812-M5
Q32	8-729-100-75	s	2SA812-M5
Q33	8-729-100-66	s	2SC1623-L6
Q34	8-729-100-66	s	2SC1623-L6
R24	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R25	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R26	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R27	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R28	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R29	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R30	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R31	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R32	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R33	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R34	1-216-685-11	s	METAL, CHIP 27K 0.5% 1/10W
R35	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R69	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R70	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R78	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R79	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R84	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
R85	1-216-643-11	s	METAL, CHIP 470 0.5% 1/10W
RV1	1-226-703-11	s	METAL 10K
RV2	1-226-771-11	s	METAL 1K
RV3	1-226-771-11	s	METAL 1K
RV4	1-226-771-11	s	METAL 1K
RV5	1-226-771-11	s	METAL 1K
RV6	1-238-222-11	s	METAL 4.7K
RV7	1-238-222-11	s	METAL 4.7K
RV8	1-238-222-11	s	METAL 4.7K
RV9	1-226-702-00	s	METAL 2.2K
RV10	1-226-702-00	s	METAL 2.2K
RV11	1-226-702-00	s	METAL 2.2K
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RV13	1-238-225-11	s	METAL 47K
RV14	1-238-225-11	s	METAL 47K
RV15	1-238-225-11	s	METAL 47K
RV16	1-238-225-11	s	METAL 47K

PR-109 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-848-A	o	MOUNTED CIRCUIT BOARD "PR-109"
C2	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C3	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C4	1-135-091-00	s	TANTALUN, CHIP 1uF 10% 16V
C9	1-163-088-00	s	CERAMIC, CHIP 5PF 50V
C11	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C15	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C16	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
CN1	1-566-094-11	o	PIN, BOARD TO BOARD 9P
CN2	1-566-093-11	o	PIN, BOARD TO BOARD 8P
D1	8-719-100-03	s	1S2835
D2	8-719-100-03	s	1S2835
D3	8-719-942-31	s	HZ3ALL
D4	8-719-100-03	s	1S2835
D5	8-719-100-03	s	1S2835
IC1	8-759-030-16	s	TL062ACPS: TI
IC2	8-759-030-16	s	TL062ACPS: TI
Q1	8-729-100-66	s	2SC1623-L6
Q2	8-729-100-66	s	2SC1623-L6
Q3	8-729-100-66	s	2SC1623-L6
Q4	8-729-109-41	s	2SK94-X1
Q5	8-729-122-63	s	2SA1226
Q6	8-729-100-66	s	2SC1623-L6
Q7	8-729-100-66	s	2SC1623-L6
Q8	8-729-102-65	s	2SC2757-T32
Q9	8-729-109-41	s	2SK94-X1
Q10	8-729-402-78	s	XN6401
Q11	8-729-402-78	s	XN6401
Q12	8-729-402-19	s	XN6501
Q13	8-729-100-66	s	2SC1623-L6

Ref. No.	Part No.	SP	Description
R15	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R16	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R17	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R18	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R19	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R22	1-216-648-11	s	METAL, CHIP 750 0.5% 1/10W
R23	1-216-653-11	s	METAL, CHIP 1.2K 0.5% 1/10W
R24	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R26	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R27	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R28	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
RV1	1-238-219-11	s	METAL 470
RV2	1-238-222-11	s	METAL 4.7K

VA-70 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-849-A	o	MOUNTED CIRCUIT BOARD "VA-70R"
	A-7513-850-A	o	MOUNTED CIRCUIT BOARD "VA-70G"
	A-7513-851-A	o	MOUNTED CIRCUIT BOARD "VA-70B"
C1	1-163-088-00	s	CERAMIC, CHIP 5PF 50V(G,R) Ser.No 40001 ˜ 42080
C2	1-163-088-00	s	CERAMIC, CHIP 5PF 50V(B,R)
C3	1-163-088-00	s	CERAMIC, CHIP 5PF 50V
C9	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C10	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C13	1-163-088-00	s	CERAMIC, CHIP 5PF 50V
C14	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C17	1-163-088-00	s	CERAMIC, CHIP 5PF 50V
C18	1-135-099-00	s	TANTALUM, CHIP 2.2uF 10% 6.3V
C21	1-135-145-11	s	TANTALUM, CHIP 0.47uF 10% 35V
C23	1-135-159-21	s	TANTAL, CHIP 10MF 20% 16V
C25	1-102-942-00	s	CERAMIC 5PF ±0.5PF 50V (G,R) Ser No. 42081 ˜ 42850
	1-102-936-00	s	CERAMIC 3PF ±0.25PF 50V (B) Ser No. 42081 ˜ 42850
	1-163-088-00	s	CERAMIC 5PF ±0.25PF 50V (G,R) Ser No. 42851 ˜
	1-163-086-00	s	CERAMIC 3PF ±0.25PF 50V (B) Ser No. 42851 ˜

Ref. No.	Part No.	SP	Description
CN1	1-566-093-11	o	PIN, BOARD TO BOARD 8P
CN2	1-566-093-11	o	PIN, BOARD TO BOARD 8P
D1	8-719-100-03	s	1S2835 Ser.No 40001 ˜ 42080
D2	8-719-100-03	s	1S2835 Ser.No 40001 ˜ 42080
D3	8-719-100-03	s	1S2835
D4	8-719-100-03	s	1S2835
D5	8-719-100-03	s	1S2835
D6	8-719-951-12	s	HZ5BLL
D7	8-719-100-03	s	1S2835
IC1	8-759-700-95	s	NJM1496M: JRC
IC2	8-759-030-16	s	TL062ACPS: TI
Q1,Q2	8-729-109-41	s	2SK94-X1 Ser No. 10001 ˜ 10920 (UC) 30001 ˜ 30610 (J) 40001 ˜ 42080 (EK)
	8-729-109-43	s	2SK94-X3 Ser No. 10921 and higher (UC) 30611 and higher (J) 42081 and higher (EK)
Q3	8-729-100-66	s	2SC1623-L6
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-122-63	s	2SA1226
Q6	8-729-122-63	s	2SA1226
Q7	8-729-100-75	s	2SA812-M5
Q8	8-729-402-19	s	XN6501
Q9	8-729-109-43	s	2SK94-X3
Q10	8-729-109-43	s	2SK94-X3
Q11	8-729-109-43	s	2SK94-X3
Q12	8-729-109-43	s	2SK94-X3
Q13	8-729-402-16	s	XN4608
Q14	8-729-100-75	s	2SA812-M5
Q15	8-729-102-65	s	2SC2757-T32
Q16	8-729-100-66	s	2SC1623 Ser.No 42081 ˜
R2	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W (G,R)
R5	1-216-673-11	s	METAL,CHIP 8.2K 0.5% 1/10W
R6	1-216-655-11	s	METAL,CHIP 1.5K 0.5% 1/10W
R7	1-216-667-11	s	METAL,CHIP 4.7K 0.5% 1/10W
R14	1-216-643-11	s	METAL,CHIP 470 0.5% 1/10W
R21	1-216-663-11	s	METAL,CHIP 3.3K 0.5% 1/10W
R32	1-216-691-11	s	METAL,CHIP 47K 0.5% 1/10W
R34	1-216-691-11	s	METAL,CHIP 47K 0.5% 1/10W
R43	1-259-877-00	s	CARBON 1.2M 5% 1/4W (G,R)
	1-259-879-00	s	CARBON 1.8M 5% 1/4W (B) Ser No. 42081 ˜ 42850

SW-281 BOARD

Ref. No.	Part No.	SP	Description
	1-627-915-11	o	PRINTED CIRCUIT BOARD "SW-281"

Ref. No.	Part No.	SP	Description
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
CN3	1-562-151-11	o	HOUSING 6P
S1	1-570-854-11	s	SWITCH, SLIDE
S2	1-570-854-11	s	SWITCH, SLIDE

SW-282 BOARD

Ref. No.	Part No.	SP	Description
	1-627-922-11	o	PRINTED CIRCUIT BOARD "SW-282"
CN4	1-562-148-11	o	HOUSING 3P
CN8	1-562-147-11	o	HOUSING, CONNECTOR 2P
R1	1-249-401-11	s	CARBON 47 5% 1/4W
S1	1-553-739-21	s	SWITCH, TACTILE
S2	1-553-739-21	s	SWITCH, TACTILE
S3	1-553-739-21	s	SWITCH, TACTILE
SW001	1-554-486-00	s	SWITCH, TOGGLE

TG-38 BOARD

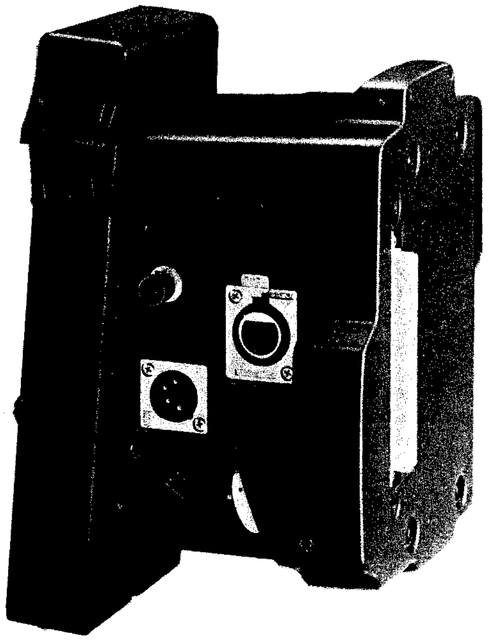
Ref. No.	Part No.	SP	Description
	A-7513-830-A	o	MOUNTED CIRCUIT BOARD "TG-38" Ser.No 10001 ~ 10720 (UC) 30001 ~ 30840 (J) 40001 ~ 42530 (EK)
	A-7513-998-A	o	MOUNTED CIRCUIT BOARD "TG-38" Ser.No 10721 ~ (UC) 30841 ~ (J) 42531 ~ (EK)
C4	1-135-125-21	s	TANTALUM,CHIP 33uF 20% 10V
C6	1-163-037-11	s	CERAMIC,CHIP 0.022uF 5% 25V
C7	1-135-125-21	s	TANTALUM,CHIP 33uF 20% 10V
C9	1-163-037-11	s	CERAMIC,CHIP 0.022uF 5% 25V
C10	1-135-124-21	s	TANTALUM,CHIP 22uF 20% 10V
C12	1-163-037-11	s	CERAMIC,CHIP 0.022uF 5% 25V
C13	1-131-374-00	s	TANTALUM 33uF 10% 16V
C21	1-135-124-21	s	TANTALUM,CHIP 22uF 20% 10V
C23	1-163-095-00	s	CERAMIC, CHIP 12P 5% 50V
C24	1-161-051-00	s	CERAMIC 0.01 10% 25V

Ref. No.	Part No.	SP	Description
CN1	1-563-684-11	o	CONNECTOR, BOARD TO BOARD 11P
CN2	1-563-685-11	o	CONNECTOR, BOARD TO BOARD 12P
CN3	1-563-684-11	o	CONNECTOR, BOARD TO BOARD 11P
CN4	1-563-684-11	o	CONNECTOR, BOARD TO BOARD 11P
CP1	1-577-182-11	s	OSCILLATOR, CRYSTAL
IC1	8-752-329-56	s	CXD1155Q: SONY
IC2	8-759-205-03	s	TC74HC27F: TOSHIBA
IC3	8-759-007-62	s	MC74HC74F: MOTOROLA
IC4	8-759-204-96	s	TC74HC04F: TOSHIBA
IC5	8-752-329-33	s	CXD1251Q: SONY
IC1	8-759-747-92	s	MB7114LPF: FUJITSU
L1	1-408-783-00	s	CHIP 33UH
L2	1-408-785-21	s	CHIP 47UH
L3	1-408-783-00	s	CHIP 33UH
Q2	8-729-100-75	s	2SA812-M5
R38	1-247-903-00	s	CARBON 1M 5% 1/4W

FRAME

Ref. No.	Part No.	SP	Description
	1-542-112-11	s	MIC
	1-547-301-11	o	FILTER UNIT, OPTICAL
	1-574-144-11	s	WIRE, FLAT TYPE(12CORE)
	1-574-145-11	s	WIRE, FLAT TYPE(30CORE)
CN101	1-561-781-21	s	SOCKET, DIN 8P
CN102	1-565-653-11	s	CONNECTOR SMALL TYPE 8P
CN104	1-561-781-21	s	SOCKET, DIN 8P
CN105	1-562-222-41	s	RECEPTACLE, 6P FEMALE
SW102	1-553-972-00	s	TOGGLE

CAMERA ADAPTOR



SPECIFICATIONS

Inputs/Outputs	VTR/CCU/CMA connector: Sony Q-type, 14-pin DC IN: XLR-type, Male 4-pin MIC IN: XLR-type, Female, 3-pin, balanced GEN LOCK: BNC-type, 75 ohms, unbalanced EARPHONE: mini jack INTERCOM: mini intercom jack
Power requirements	12 V DC
Weight	Approx. 960 g (2 lb 2 oz)
Dimensions	Approx. 129 × 197 × 148 mm (w/h/d) ($5\frac{1}{8} \times 7\frac{7}{8} \times 5\frac{7}{8}$ inches)
Supplied accessories	Screws for attaching the CA-325/325P M4 × 6 (2) M4 × 12 (2) Operating Instructions (1)

Design and specifications are subject to change without notice.

SONY®

SERVICE MANUAL

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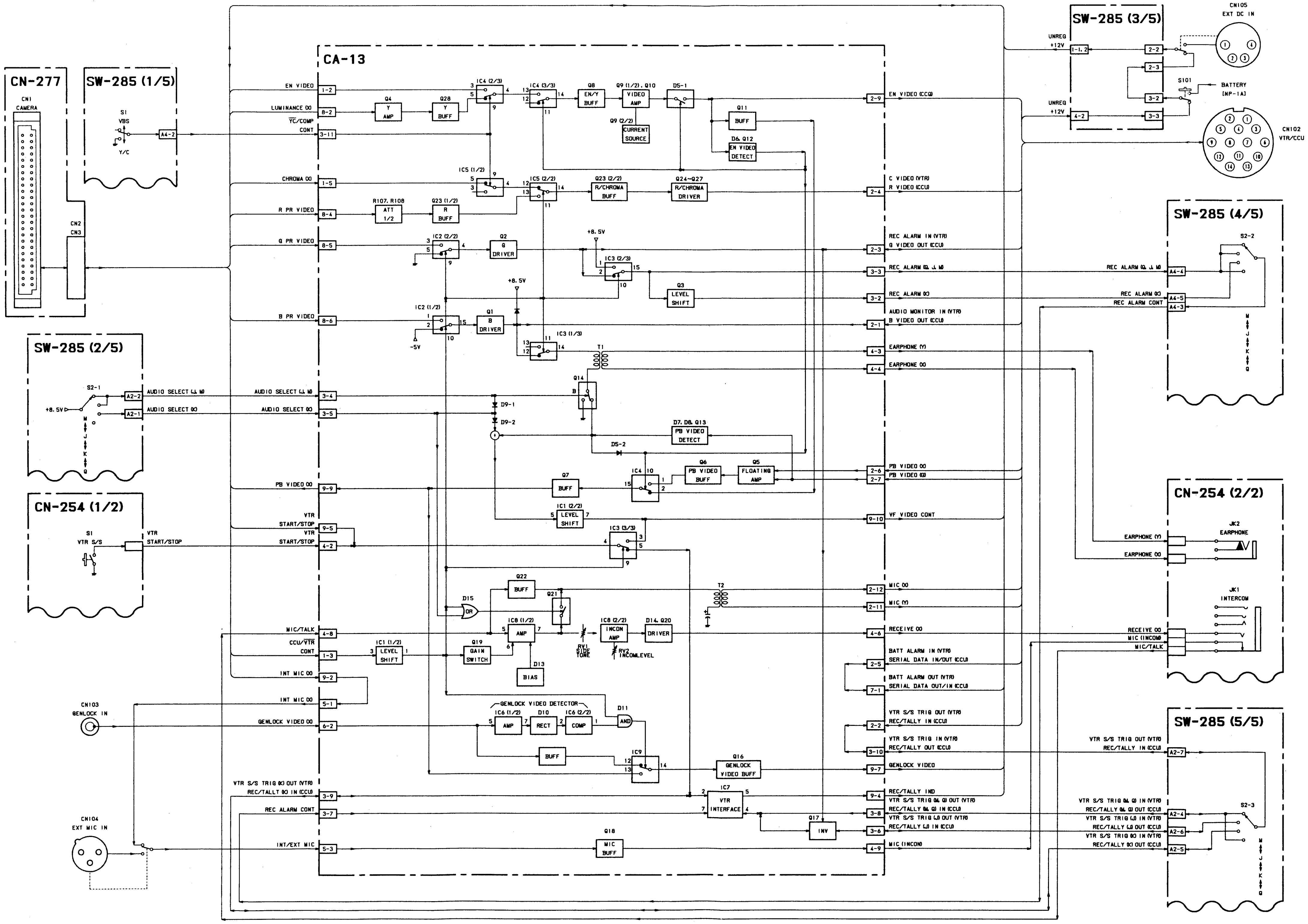
BLOCK DIAGRAM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OVERALL BLOCK

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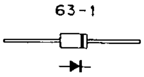
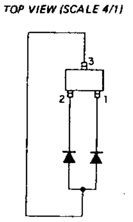
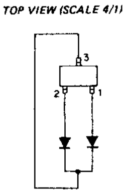
DIODE, TRANSISTOR



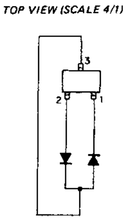
1S2348H


TOP VIEW (SCALE 4/1)
3
2
1

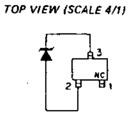
1S2835


TOP VIEW (SCALE 4/1)
3
2
1

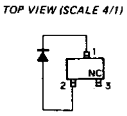
1S2837


TOP VIEW (SCALE 4/1)
3
2
1

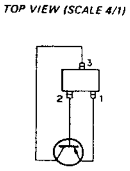
1SS123


TOP VIEW (SCALE 4/1)
3
NC
2
1

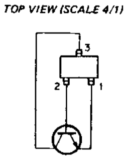
RD ? ?MB ?


TOP VIEW (SCALE 4/1)
1
NC
2
3

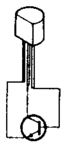
SB05-05CP


TOP VIEW (SCALE 4/1)
3
2
1

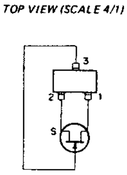
2SA812


TOP VIEW (SCALE 4/1)
3
2
1

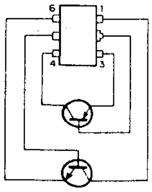
2SC1623



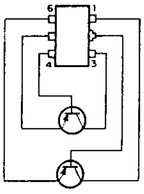
2SC2878


TOP VIEW (SCALE 4/1)
3
2
1
S

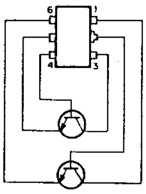
2SK94



XN4608

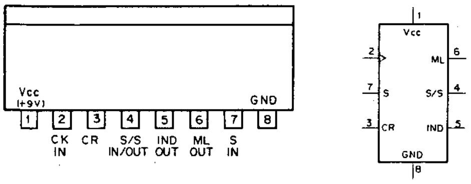


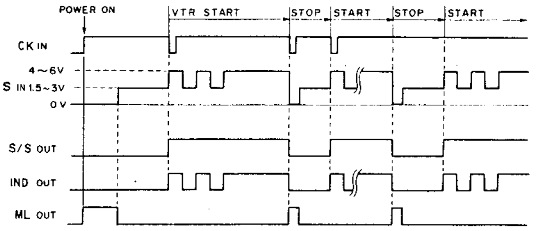
XN6401
XN6435

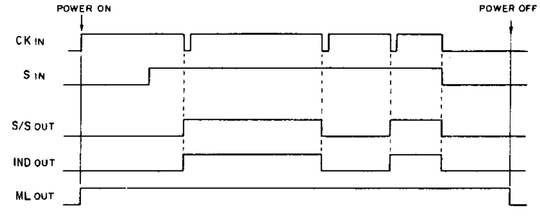


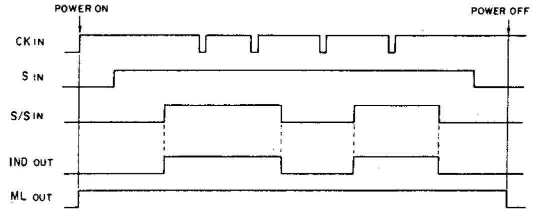
XN6501
XN6534

CX518 (SONY)
INTERFACE CIRCUIT BETWEEN VTR AND CAMERA
– SIDE VIEW –

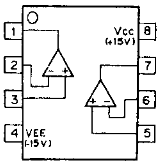

Vcc
(+9V)
GND
1
2
3
4
5
6
7
8
CK IN
CR
S/S IN/OUT
IND OUT
ML OUT
S IN
Vcc
ML
S
S/S
CR
IND
GND


POWER ON
VTR START
STOP
START
STOP
START
CK IN
4~6V
S IN 1.5~3V
0V
S/S OUT
IND OUT
ML OUT

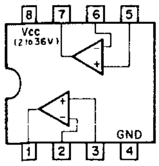

POWER ON
POWER OFF
CK IN
S IN
S/S OUT
IND OUT
ML OUT


POWER ON
POWER OFF
CK IN
S IN
S/S IN
IND OUT
ML OUT

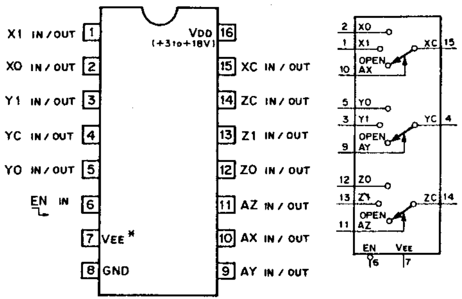
NJM2043M-D (JRC) FLAT PACKAGE
RC2043MC (RAYTHEON) FLAT PACKAGE
OPERATIONAL AMPLIFIER
– TOP VIEW –


1
2
3
4
5
6
7
8
Vcc (+15V)
VEE (-15V)

NJM2903M (JRC) FLAT PACKAGE
LM2903M (RAYTHEON) FLAT PACKAGE
OPERATIONAL AMPLIFIER
– TOP VIEW –


8
7
6
5
Vcc (2 to 36V)
GND
1
2
3
4

TC4053BF (TOSHIBA) FLAT PACKAGE
C-MOS 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –

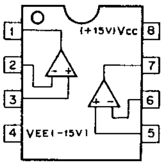

X1 IN/OUT 1
XO IN/OUT 2
Y1 IN/OUT 3
YC IN/OUT 4
YO IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD (+3 to +18V) 16
15 XC IN/OUT
14 ZC IN/OUT
13 Z1 IN/OUT
12 ZO IN/OUT
11 AZ IN/OUT
10 AX IN/OUT
9 AY IN/OUT
XO
X1
OPEN
AX
XC
YO
Y1
OPEN
AY
YC
ZO
Z1
OPEN
AZ
ZC
EN
VEE

VEE*; VDD−VEE : +3 to +18 V

O; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

CONT. INPUTS		ON CHANNEL
EN	A (X,Y,Z,)	
O	O	O
O	1	1
1	X	OPEN

uPC4558G2 (NEC) FLAT PACKAGE
OPERATIONAL AMPLIFIER
– TOP VIEW –

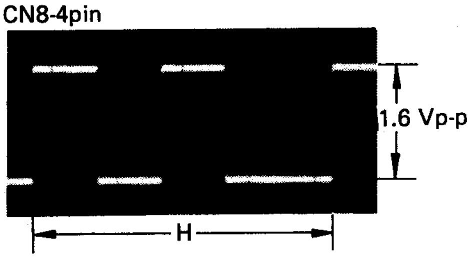

1
2
3
4
5
6
7
8
(+15V) Vcc
VEE (-15V)

CA-13

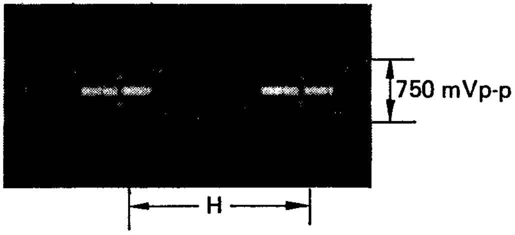
NOTE:

1. All voltage are dc, measured with a digital voltmeter. (input impedance: 10MΩ)
2. All waveforms are taken and DC voltage is measured in condition below.
   - Set camera BARS/WB selector to BARS position.
   - Set camera OUTPUT selector to VBS position.

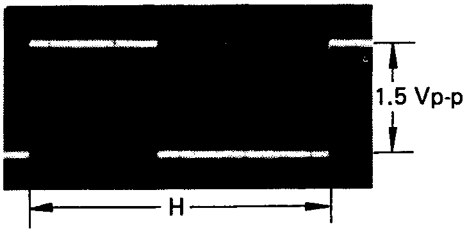
CN8-4pin



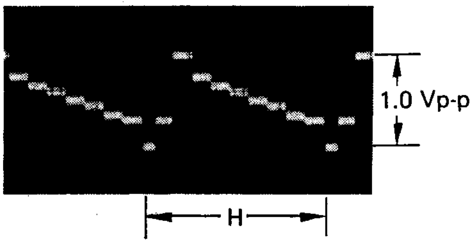
CN1-5pin



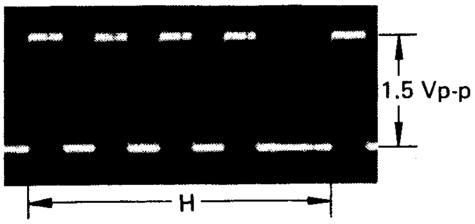
CN8-5pin



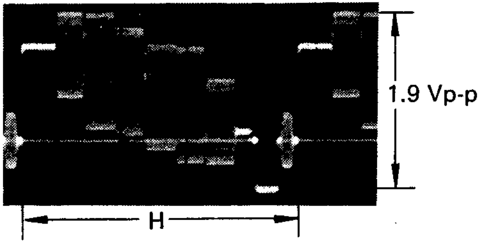
CN8-2pin



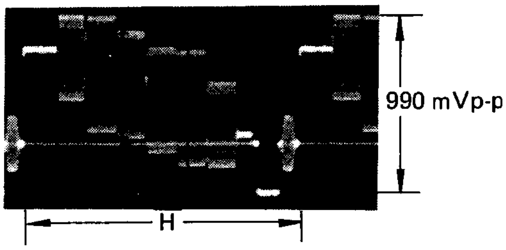
CN8-6pin



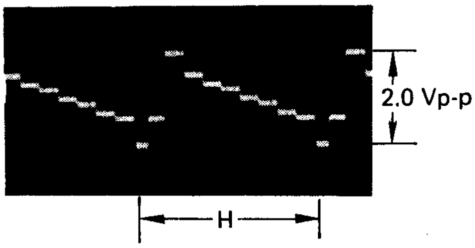
CN1-2pin



CN2-9pin

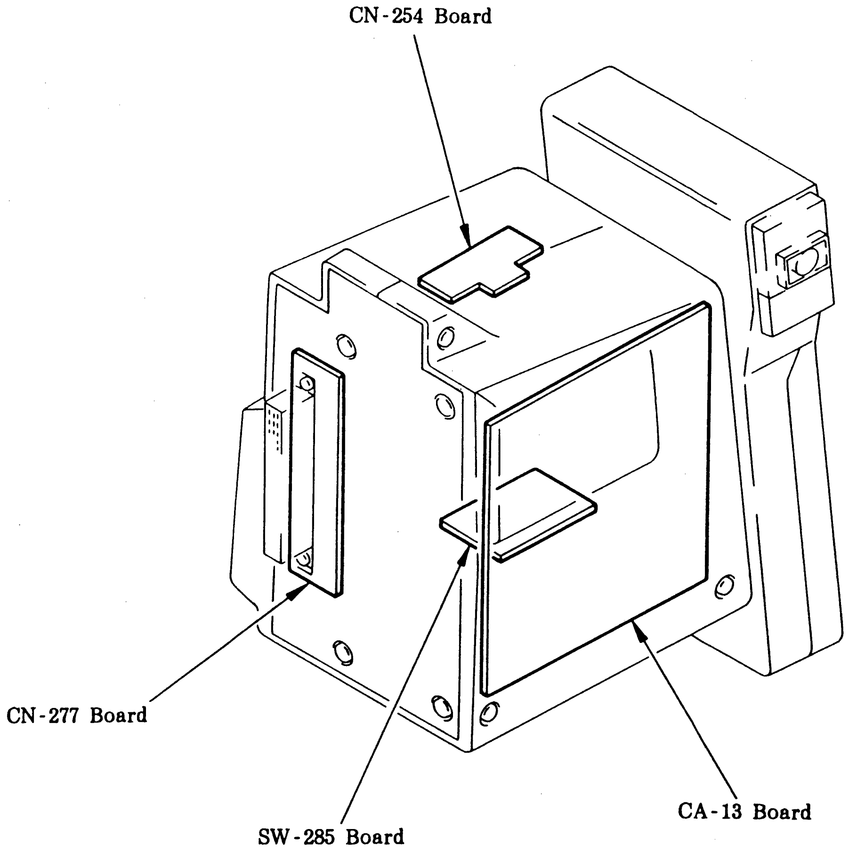


Q28-emitter



SECTION C

SCHEMATIC DIAGRAMS AND BOARD ILLUSTRAIONS


CN-254 Board
CN-277 Board
SW-285 Board
CA-13 Board

(3)

CA-13 BOARD

Ser.No.10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)

CA-13 (1-627-934-11,12)

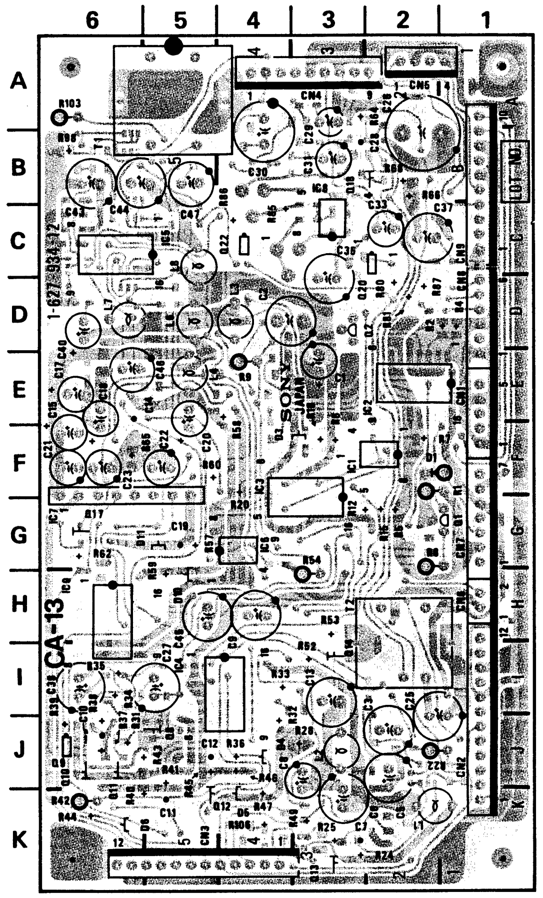
CN1	E-1
CN2	K-1
CN3	K-5
CN4	A-3
CN5	A-2
CN6	H-1
CN7	G-1
CN8	D-1
CN9	B-1

D1	F-2
D2	G-2
D3	F-3
D4	J-4
D5	K-4
D6	K-5
D7	K-3
D8	K-2
D9	K-3
D10	H-5
D11	G-5
D12	H-6
D13	B-4
D14	C-3
D15	A-2
D16	E-4

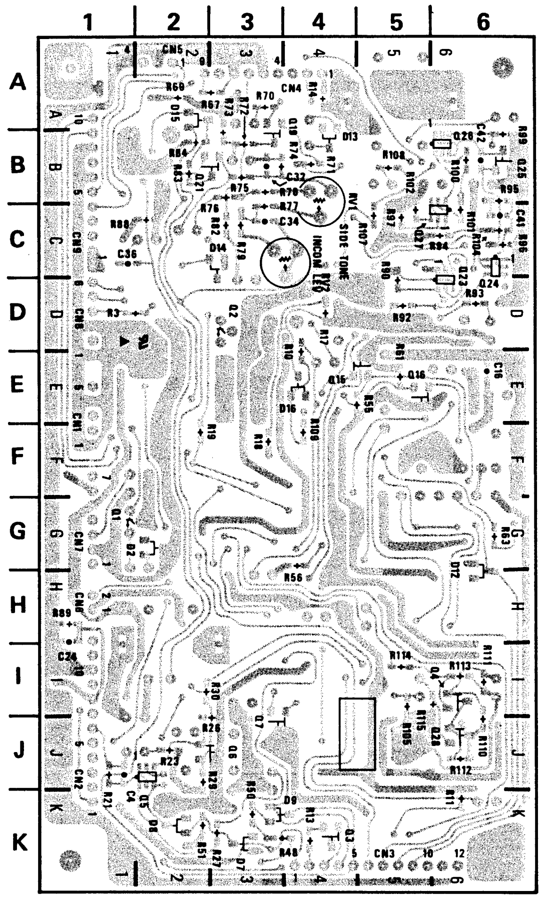
IC1	F-2
IC2	E-2
IC3	G-3
IC4	I-4
IC5	C-6
IC6	G-4
IC7	F-6
IC8	C-3
IC9	H-6

Q1	G-1
Q2	D-3
Q3	K-4
Q4	I-6
Q5	J-2
Q6	J-3
Q7	J-3
Q8	J-5
Q9	J-6
Q10	J-6
Q11	J-6
Q12	K-5
Q13	K-3
Q14	I-3
Q15	E-5
Q16	E-5
Q17	G-6
Q18	B-3
Q19	B-3
Q20	C-2
Q21	B-3
Q22	C-4
Q23	D-6
Q24	C-6
Q25	B-6
Q26	B-6
Q27	C-6
Q28	J-6

T1	B-6
T2	H-3



1-627-934-11 COMPONENT SIDE



1-627-934-11 SOLDERING SIDE

CA-13 (1-627-934-11,12)

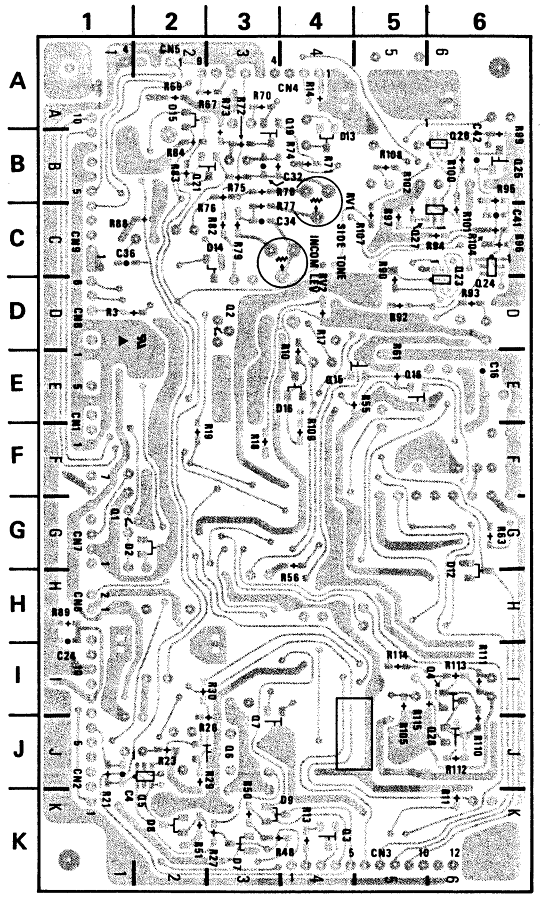
CN1	E-1
CN2	K-1
CN3	K-5
CN4	A-3
CN5	A-2
CN6	H-1
CN7	G-1
CN8	D-1
CN9	B-1

D1	F-2
D2	G-2
D3	F-3
D4	J-4
D5	K-4
D6	K-5
D7	K-3
D8	K-2
D9	K-3
D10	H-5
D11	G-5
D12	H-6
D13	B-4
D14	C-3
D15	A-2
D16	E-4

IC1	F-2
IC2	E-2
IC3	G-3
IC4	I-4
IC5	C-6
IC6	G-4
IC7	F-6
IC8	C-3
IC9	H-6

Q1	G-1
Q2	D-3
Q3	K-4
Q4	I-6
Q5	J-2
Q6	J-3
Q7	J-3
Q8	J-5
Q9	J-6
Q10	J-6
Q11	J-6
Q12	K-5
Q13	K-3
Q14	I-3
Q15	E-5
Q16	E-5
Q17	G-6
Q18	B-3
Q19	B-3
Q20	C-2
Q21	B-3
Q22	C-4
Q23	D-6
Q24	C-6
Q25	B-6
Q26	B-6
Q27	C-6
Q28	J-6

T1	B-6
T2	H-3

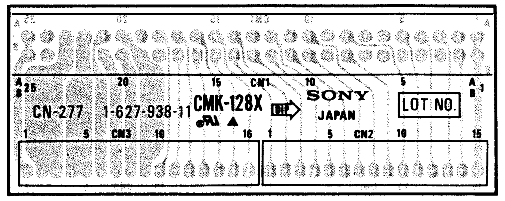

1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
K
SIDE TONE
INCOM
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
IC2
IC3

1-627-934-11 SOLDERING SIDE

CA-13 (1-627-934-11,12)

CN1	E-1
CN2	K-1
CN3	K-5
CN4	A-3
CN5	A-2
CN6	H-1
CN7	G-1
CN8	D-1
CN9	B-1
D1	F-2
D2	G-2
D3	F-3
D4	J-4
D5	K-4
D6	K-5
D7	K-3
D8	K-2
D9	K-3
D10	H-5
D11	G-5
D12	H-6
D13	B-4
D14	C-3
D15	A-2
D16	E-4
IC1	F-2
IC2	E-2
IC3	G-3
IC4	I-4
IC5	C-6
IC6	G-4
IC7	F-6
IC8	C-3
IC9	H-6
Q1	G-1
Q2	D-3
Q3	K-4
Q4	I-6
Q5	J-2
Q6	J-3
Q7	J-3
Q8	J-5
Q9	J-6
Q10	J-6
Q11	J-6
Q12	K-5
Q13	K-3
Q14	I-3
Q15	E-5
Q16	E-5
Q17	G-6
Q18	B-3
Q19	B-3
Q20	C-2
Q21	B-3
Q22	C-4
Q23	D-6
Q24	C-6
Q25	B-6
Q26	B-6
Q27	C-6
Q28	J-6
T1	B-6
T2	H-3

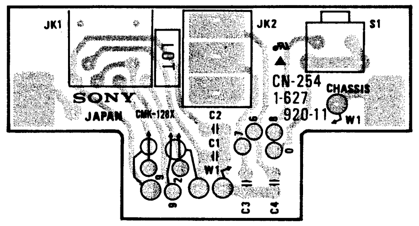
CN-277 BOARD


CN-277
1-627-938-11
CMK-128X
SONY
JAPAN
LOT NO.
CN1
CN2
CN3

1-627-938-11 COMPONENT SIDE

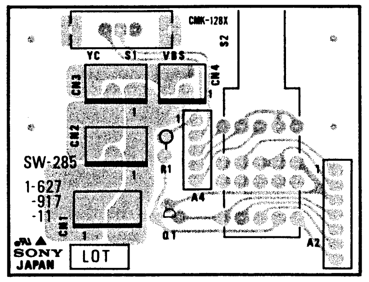
CN-254 BOARD

Ser.No.10001-11270 (UC)
30001-30810 (J)
40001-42080 (EK)


JK1
JK2
S1
LOT
SONY
JAPAN
CN-254
1-627
920-11
CHASSIS
W1
C1
C2
C3
C4

1-627-920-11 COMPONENT SIDE

SW-285 BOARD


CMK-128X
YC
S1
VBS
S2
CN1
CN2
CN3
CN4
SW-285
1-627
-917
-11
SONY
JAPAN
LOT
R1
A4
Q1
A2

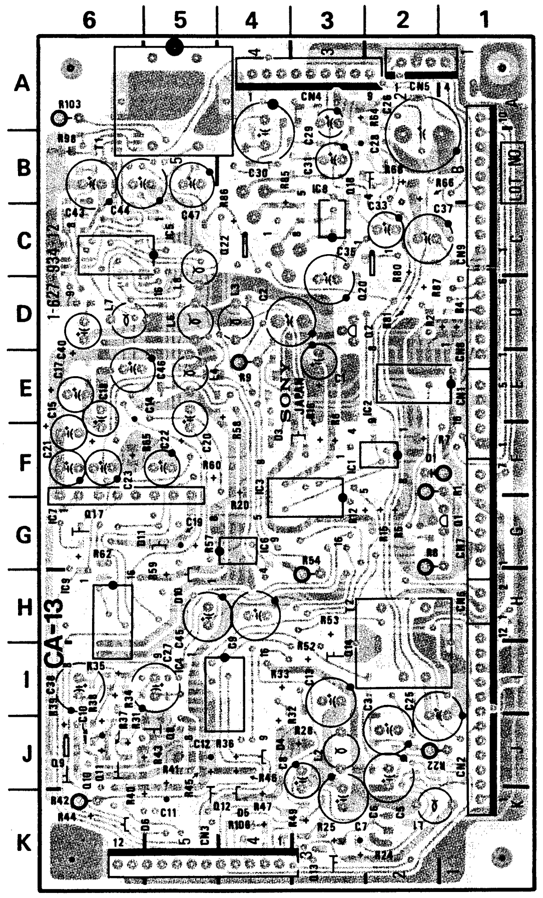
1-627-917-11 COMPONENT SIDE

CA-13 BOARD

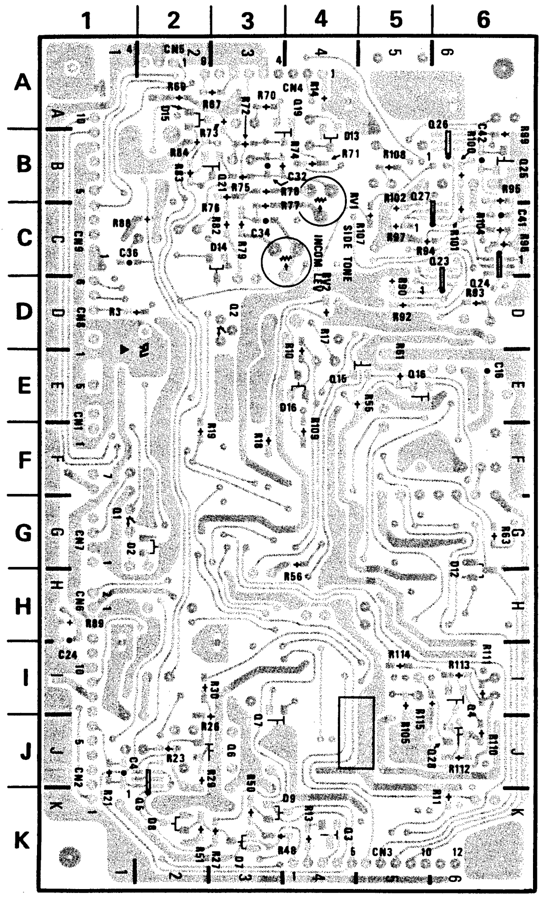
Ser.No.11271- (UC)
30811- (J)
42081- (EK)

CA-13 (1-627-934-11,12)

CN1	E-1
CN2	K-1
CN3	K-5
CN4	A-3
CN5	A-2
CN6	H-1
CN7	G-1
CN8	D-1
CN9	B-1
D1	F-2
D2	G-2
D3	F-3
D4	J-4
D5	K-4
D6	K-5
D7	K-3
D8	K-2
D9	K-3
D10	H-5
D11	G-5
D12	H-6
D13	B-4
D14	C-3
D15	A-2
D16	E-4
IC1	F-2
IC2	E-2
IC3	G-3
IC4	I-4
IC5	C-6
IC6	G-4
IC7	F-6
IC8	C-3
IC9	H-6
Q1	G-1
Q2	D-3
Q3	K-4
Q4	I-6
Q5	J-2
Q6	J-3
Q7	J-3
Q8	J-5
Q9	J-6
Q10	J-6
Q11	J-6
Q12	K-5
Q13	K-3
Q14	I-3
Q15	E-5
Q16	E-5
Q17	G-6
Q18	B-3
Q19	B-3
Q20	C-2
Q21	B-3
Q22	C-4
Q23	D-6
Q24	C-6
Q25	B-6
Q26	B-6
Q27	C-6
Q28	J-6
T1	B-6
T2	H-3



1-627-934-12 COMPONENT SIDE

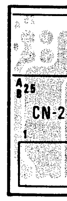


1-627-934-12 SOLDERING SIDE

CA-13 (1-627-934-11,12)

CN1	E-1
CN2	K-1
CN3	K-5
CN4	A-3
CN5	A-2
CN6	H-1
CN7	G-1
CN8	D-1
CN9	B-1
D1	F-2
D2	G-2
D3	F-3
D4	J-4
D5	K-4
D6	K-5
D7	K-3
D8	K-2
D9	K-3
D10	H-5
D11	G-5
D12	H-6
D13	B-4
D14	C-3
D15	A-2
D16	E-4
IC1	F-2
IC2	E-2
IC3	G-3
IC4	I-4
IC5	C-6
IC6	G-4
IC7	F-6
IC8	C-3
IC9	H-6
Q1	G-1
Q2	D-3
Q3	K-4
Q4	I-6
Q5	J-2
Q6	J-3
Q7	J-3
Q8	J-5
Q9	J-6
Q10	J-6
Q11	J-6
Q12	K-5
Q13	K-3
Q14	I-3
Q15	E-5
Q16	E-5
Q17	G-6
Q18	B-3
Q19	B-3
Q20	C-2
Q21	B-3
Q22	C-4
Q23	D-6
Q24	C-6
Q25	B-6
Q26	B-6
Q27	C-6
Q28	J-6
T1	B-6
T2	H-3

CN-2



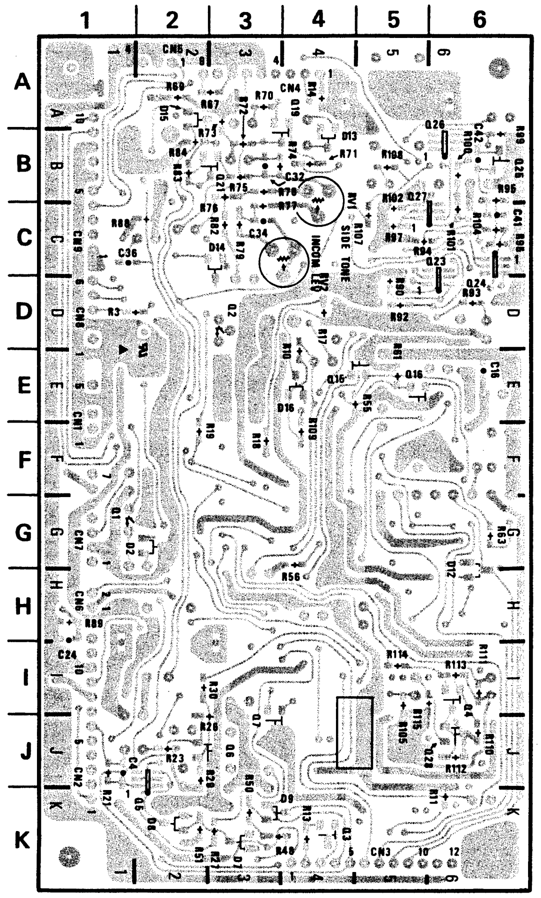
CN-2

1-6

SW-2

SW-28
1-627
-917
-11
SONY
JAPAN

1-627-9

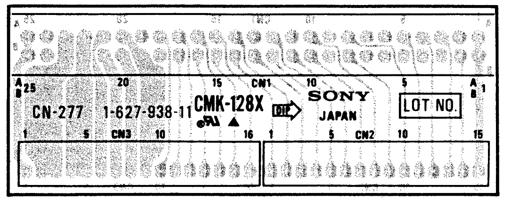

1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
K

1-627-934-12 SOLDERING SIDE

CA-13 (1-627-934-11,12)

CN1	E-1
CN2	K-1
CN3	K-5
CN4	A-3
CN5	A-2
CN6	H-1
CN7	G-1
CN8	D-1
CN9	B-1
D1	F-2
D2	G-2
D3	F-3
D4	J-4
D5	K-4
D6	K-5
D7	K-3
D8	K-2
D9	K-3
D10	H-5
D11	G-5
D12	H-6
D13	B-4
D14	C-3
D15	A-2
D16	E-4
IC1	F-2
IC2	E-2
IC3	G-3
IC4	I-4
IC5	C-6
IC6	G-4
IC7	F-6
IC8	C-3
IC9	H-6
Q1	G-1
Q2	D-3
Q3	K-4
Q4	I-6
Q5	J-2
Q6	J-3
Q7	J-3
Q8	J-5
Q9	J-6
Q10	J-6
Q11	J-6
Q12	K-5
Q13	K-3
Q14	I-3
Q15	E-5
Q16	E-5
Q17	G-6
Q18	B-3
Q19	B-3
Q20	C-2
Q21	B-3
Q22	C-4
Q23	D-6
Q24	C-6
Q25	B-6
Q26	B-6
Q27	C-6
Q28	J-6
T1	B-6
T2	H-3

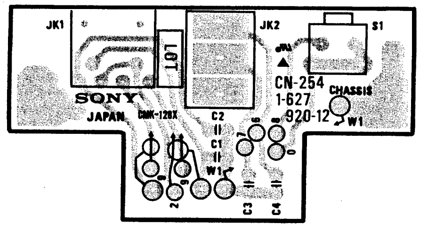
CN-277 BOARD


CN-277
1-627-938-11
CMK-128X
SONY
JAPAN
LOT NO.
CN1
CN2
CN3

1-627-938-11 COMPONENT SIDE

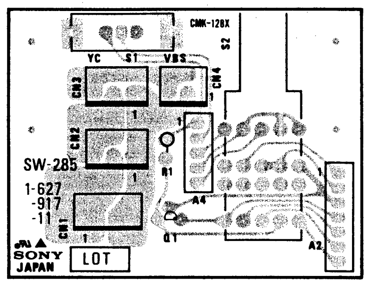
CN-254 BOARD

Ser.No.11271- (UC)
30811- (J)
42081- (EK)

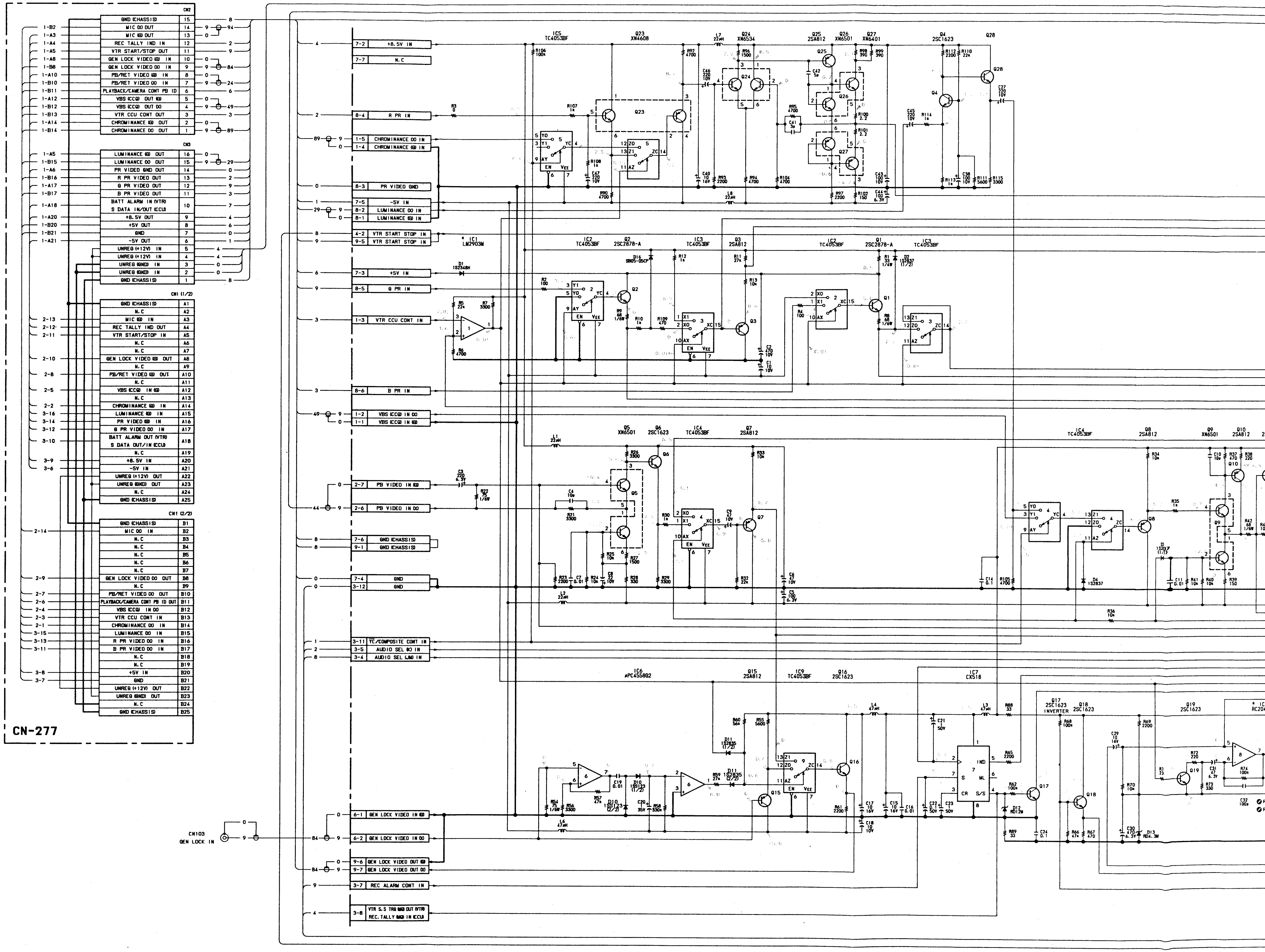

JK1
JK2
S1
LOT
SONY
JAPAN
CMK-128X
CN-254
1-627
-920-12
CHASSIS
W1
C1
C2
C3
C4

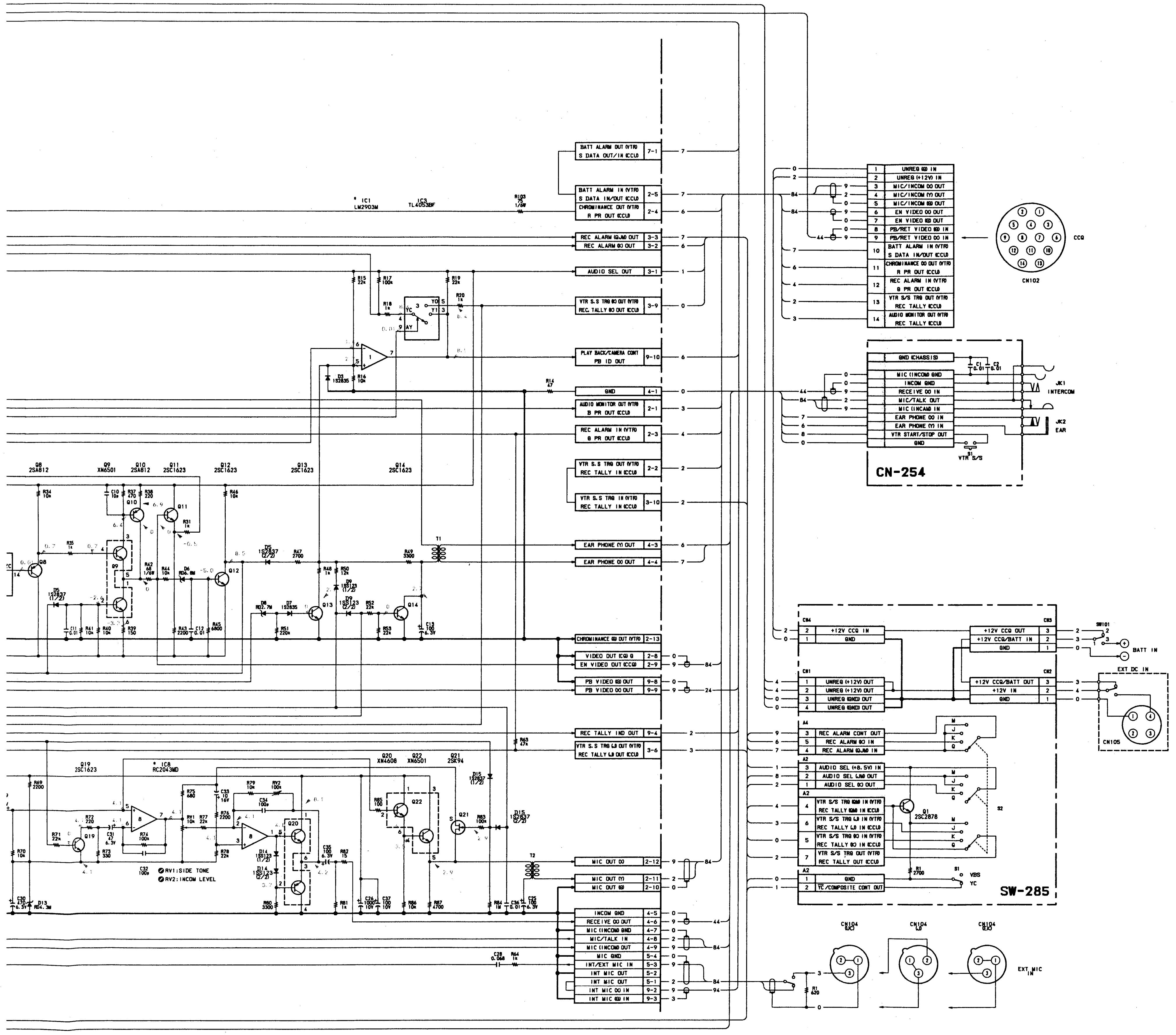
1-627-920-12 COMPONENT SIDE

SW-285 BOARD


CMK-128X
YC
S1
VBS
S2
CN3
CN4
CN2
CN1
SW-285
1-627
-917
-11
SONY
JAPAN
LOT
A1
A2
A4
Q1

1-627-917-11 COMPONENT SIDE


CN-277
CN2
GND (CHASSIS)
MIC (R) OUT
MIC (L) OUT
REC TALLY IND IN
VTR START/STOP OUT
GEN LOCK VIDEO (L) IN
GEN LOCK VIDEO (R) IN
PB/RET VIDEO (L) IN
PB/RET VIDEO (R) IN
PLAYBACK/CAMERA CONT PB ID
VBS (CCD) OUT (L)
VBS (CCD) OUT (R)
VTR CCU CONT OUT
CHROMINANCE (L) OUT
CHROMINANCE (R) OUT
CN3
LUMINANCE (L) OUT
LUMINANCE (R) OUT
PR VIDEO GND OUT
R PR VIDEO OUT
G PR VIDEO OUT
B PR VIDEO OUT
BATT ALARM IN (VTR)
S DATA IN/OUT (CCU)
+8.5V OUT
+5V OUT
GND
-5V OUT
UNREG (+12V) IN
UNREG (GND) IN
CN1 (1/2)
CN1 (2/2)
+8.5V IN
-5V IN
R PR IN
G PR IN
B PR IN
PR VIDEO GND
CHROMINANCE (R) IN
CHROMINANCE (L) IN
LUMINANCE (R) IN
LUMINANCE (L) IN
VTR START STOP IN
+5V IN
VTR CCU CONT IN
VBS (CCD) IN (R)
VBS (CCD) IN (L)
PB VIDEO IN (L)
PB VIDEO IN (R)
GND (CHASSIS)
GND
YC/COMPOSITE CONT IN
AUDIO SEL (R) IN
AUDIO SEL (L) IN
GEN LOCK VIDEO IN (L)
GEN LOCK VIDEO IN (R)
GEN LOCK VIDEO OUT (L)
GEN LOCK VIDEO OUT (R)
REC ALARM CONT IN
VTR S.S TRG (L) OUT (VTR)
REC. TALLY (L) IN (CCU)
CN103
GEN LOCK IN
IC5 TC4053BF
IC1 LM2903M
IC2 TC4053BF
IC3 TC4053BF
IC4 TC4053BF
IC6 μPC4558G2
IC7 CX518
IC9 TC4053BF
Q23 XN4608
Q24 XN6534
Q25 2SA812
Q26 XN6501
Q27 XN6401
Q4 2SC1623
Q28
Q2 2SC2878-A
Q3 2SA812
Q1 2SC2878-A
Q5 XN6501
Q6 2SC1623
Q7 2SA812
Q8 2SA812
Q9 XN6501
Q10 2SA812
Q15 2SA812
Q16 2SC1623
Q17 2SC1623
Q18 2SC1623
INVERTER
Q19 2SC1623


* IC1
LM2903M
IC3
TL4053BF
R103
75
1/6W
BATT ALARM OUT (VTR)
S DATA OUT/IN (CCU)
7-1
BATT ALARM IN (VTR)
S DATA IN/OUT (CCU)
2-5
CHROMINANCE OUT (VTR)
R PR OUT (CCU)
2-4
REC ALARM (QJM) OUT
3-3
REC ALARM (K) OUT
3-2
AUDIO SEL OUT
3-1
VTR S.S TRG (K) OUT (VTR)
REC. TALLY (K) OUT (CCU)
3-9
PLAY BACK/CAMERA CONT
PB ID OUT
9-10
R14
47
GND
4-1
AUDIO MONITOR OUT (VTR)
B PR OUT (CCU)
2-1
REC ALARM IN (VTR)
B PR OUT (CCU)
2-3
VTR S.S TRG OUT (VTR)
REC TALLY IN (CCU)
2-2
VTR S.S TRG IN (VTR)
REC TALLY IN (CCU)
3-10
EAR PHONE (Y) OUT
4-3
EAR PHONE (X) OUT
4-4
CHROMINANCE (G) OUT (VTR)
2-13
VIDEO OUT (CQ) G
2-8
EN VIDEO OUT (CCQ)
2-9
PB VIDEO (G) OUT
9-8
PB VIDEO (X) OUT
9-9
REC TALLY IND OUT
9-4
R63
47k
VTR S.S TRG (J) OUT (VTR)
REC TALLY (J) OUT (CCU)
3-6
T1
T2
MIC OUT (X)
2-12
MIC OUT (Y)
2-11
MIC OUT (G)
2-10
INCOM GND
4-5
RECEIVE (X) OUT
4-6
MIC (INCOM) GND
4-7
MIC/TALK IN
4-8
MIC (INCOM) OUT
4-9
MIC GND
5-4
INT/EXT MIC IN
5-3
INT MIC OUT
5-2
INT MIC OUT
5-1
INT MIC (X) IN
9-2
INT MIC (G) IN
9-3
84
44
94
24
Q8
2SA812
Q9
XN6501
Q10
2SA812
Q11
2SC1623
Q12
2SC1623
Q13
2SC1623
Q14
2SC1623
Q19
2SC1623
* IC8
RC2043MD
Q20
XN4608
Q22
XN6501
Q21
2SK94
D15
1S2837
(2/2)
RV1:SIDE TONE
RV2:INCOM LEVEL
UNREG (G) IN
UNREG (+12V) IN
MIC/INCOM (X) OUT
MIC/INCOM (Y) OUT
MIC/INCOM (G) OUT
EN VIDEO (X) OUT
EN VIDEO (G) OUT
PB/RET VIDEO (G) IN
PB/RET VIDEO (X) IN
BATT ALARM IN (VTR)
S DATA IN/OUT (CCU)
CHROMINANCE (X) OUT (VTR)
R PR OUT (CCU)
REC ALARM IN (VTR)
B PR OUT (CCU)
VTR S/S TRG OUT (VTR)
REC TALLY (CCU)
AUDIO MONITOR OUT (VTR)
REC TALLY (CCU)
CCQ
CN102
GND (CHASSIS)
C1
0.01
C2
0.01
MIC (INCOM) GND
INCOM GND
RECEIVE (X) IN
MIC/TALK OUT
MIC (INCAM) IN
EAR PHONE (X) IN
EAR PHONE (Y) IN
VTR START/STOP OUT
GND
S1
VTR S/S
JK1
INTERCOM
JK2
EAR
CN-254
CN4
+12V CCQ IN
GND
CN3
+12V CCQ OUT
+12V CCQ/BATT IN
GND
SW101
BATT IN
CN1
UNREG (+12V) OUT
UNREG (+12V) OUT
UNREG (GND) OUT
UNREG (GND) OUT
CN2
+12V CCQ/BATT OUT
+12V IN
GND
EXT DC IN
CN105
A4
REC ALARM CONT OUT
REC ALARM (K) IN
REC ALARM (QJM) IN
A2
AUDIO SEL (+8.5V) IN
AUDIO SEL (JM) OUT
AUDIO SEL (K) OUT
VTR S/S TRG (QM) IN (VTR)
REC TALLY (QM) IN (CCU)
VTR S/S TRG (J) IN (VTR)
REC TALLY (J) IN (CCU)
VTR S/S TRG (K) IN (VTR)
REC TALLY (K) IN (CCU)
VTR S/S TRG OUT (VTR)
REC TALLY OUT (CCU)
Q1
2SC2878
M
J
K
Q
S2
R1
2700
S1
VBS
YC
GND
YC/COMPOSITE CONT OUT
SW-285
CN104
(UC)
CN104
(J)
CN104
(EK)
EXT MIC
IN

* CHANGE INFORMATION

REF. NO	DESCRIPTION	EFECTIVE SER. NO
IC1	NJM2903M ——→ LM2903M	12111 - (UC) 30981 - (J) 42871 - (EK)
IC8	MJM2043MD ——→ RC2043MD	

No.	Parts No.	SP	Description
1	A-6703-651-E	s	CASE ASSY, BATTERY
2	A-7513-826-A	o	MOUNTED CIRCUIT BOARD "CA-13"
3	X-3664-208-1	s	KNOB ASSY, FADE
4	X-3717-701-4	o	COVER ASSY, TOP, BATTERY
6	1-507-578-12	s	JACK "EAR"
7	1-507-883-11	s	JACK, SMALL TYPE 4P "INTERCOM"
8	1-508-942-12	s	RECEPTACLE, 14P MALE "VTR/CCU/CMA"
9	1-552-665-11	s	SWITCH, MICRO
10	1-554-088-41	s	SWITCH, KEY BOARD "VTR START"
11	1-561-781-41	s	RECEPTACLE, BNC "GEN LOCK"
12	1-563-096-11	s	RECEPTACLE, 3P FEMALE (WITH SW) "MIC IN"
13	1-564-603-11	s	RECEPTACLE, 4P MALE (WITH DC SW) "DC IN"
14	1-566-581-11	o	RECEPTACLE, 50P, FEMALE
15	1-570-491-11	s	SWITCH, ROTARY "VTR"
16	1-627-917-11	o	PRINTED CIRCUIT BOARD "SW-285"
17	1-627-920-11	o	PRINTED CIRCUIT BOARD "CN-254"
18	1-627-938-11	o	PRINTED CIRCUIT BOARD "CN-277"
19	1-571-767-11	s	SWITCH, SLIDE "OUTPUT"
21	2-122-068-01	o	PANEL, CA FRONT
22	2-122-073-01	o	PANEL, CN
23	2-122-075-01	s	COVER (LEFT)
24	2-122-076-01	s	COVER (RIGHT)
25	2-132-225-01	o	PLATE (CCQ), BLIND
26	2-132-226-01	o	PLATE (MIC), BLIND
27	3-676-244-03	s	COVER, SWITCH
28	3-680-604-11	o	PLATE, BLIND
29	3-703-075-01	s	CAP 2, SHAFT
30	3-717-707-02	o	CUSHION (2)
31	3-717-708-01	o	RETAINER, CASE
32	3-717-709-01	o	SHAFT, LID
33	3-718-040-02	o	COVER (1), BATTERY CASE
34	3-718-172-01	o	RETAINER, HOOK

D-4. ELECTRICAL PARTS

CA-13 BOARD

Ref. No.	Part No.	SP	Description
	A-7513-826-A	o	MOUNTED CIRCUIT BOARD "CA-13"
C1	1-131-377-00	s	TANTALUM 10uF 10% 10V
C2	1-124-472-11	s	ELECT 470uF 20% 10V
C3	1-126-176-11	s	ELECT 220uF 20% 10V
C4	1-163-093-00	s	CERAMIC, CHIP 10PF 5% 50V
C5	1-124-225-00	s	ELECT 100uF 20% 6.3V
C6	1-124-589-11	s	ELECT 47uF 20% 16V
C7	1-163-021-00	s	CERAMIC, CHIP 0.01uF 5% 50V
C8	1-124-638-11	s	ELECT 22uF 20% 10V
C9	1-124-589-11	s	ELECT 47uF 20% 16V
C10	1-163-093-00	s	CERAMIC, CHIP 10PF 5% 50V
C11	1-163-021-00	s	CERAMIC, CHIP 0.01uF 5% 50V
C12	1-163-021-00	s	CERAMIC, CHIP 0.01uF 5% 50V
C13	1-124-225-00	s	ELECT 100uF 20% 6.3V
C14	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C15	1-131-365-00	s	TANTALUM 10uF 10% 20V
C16	1-163-021-00	s	CERAMIC, CHIP 0.01uF 5% 50V
C17	1-131-365-00	s	TANTALUM 10uF 10% 20V
C18	1-131-377-00	s	TANTALUM 10uF 10% 10V
C19	1-163-021-00	s	CERAMIC, CHIP 0.01uF 5% 50V
C20	1-131-347-00	s	TANTALUM 1uF 10% 35V
C21	1-124-438-00	s	ELECT 1MF 20% 50V
C22	1-124-463-00	s	ELECT 0.1uF 20% 50V
C23	1-124-438-00	s	ELECT 1MF 20% 50V
C24	1-163-038-00	s	CERAMIC, CHIP 0.1uF 25V
C25	1-124-225-00	s	ELECT 100uF 20% 6.3V
C26	1-124-473-11	s	ELECT 1000uF 20% 10V
C27	1-126-176-11	s	ELECT 220uF 20% 10V
C28	1-163-036-00	s	CERAMIC, CHIP 0.068MF 50V
C29	1-126-157-11	s	ELECT 10uF 20% 16V
C30	1-124-472-11	s	ELECT 470uF 20% 10V
C31	1-126-154-11	s	ELECT 47uF 20% 6.3V
C32	1-163-117-00	s	CERAMIC, CHIP 100PF 5% 50V
C33	1-126-157-11	s	ELECT 10uF 20% 16V
C34	1-163-117-00	s	CERAMIC, CHIP 100PF 5% 50V
C35	1-124-225-00	s	ELECT 100uF 20% 6.3V
C36	1-163-021-00	s	CERAMIC, CHIP 0.01uF 5% 50V
C37	1-124-584-00	s	ELECT 100uF 20% 10V
C38	1-124-584-00	s	ELECT 100uF 20% 10V
C40	1-131-365-00	s	TANTALUM 10uF 10% 20V
C41	1-163-086-00	s	CERAMIC, CHIP 3PF 50V
C42	1-163-088-00	s	CERAMIC, CHIP 5PF 50V
C43	1-124-584-00	s	ELECT 100uF 20% 10V
C44	1-124-225-00	s	ELECT 100uF 20% 6.3V
C45	1-126-176-11	s	ELECT 220uF 20% 10V
C46	1-126-176-11	s	ELECT 220uF 20% 10V
C47	1-126-176-11	s	ELECT 220uF 20% 10V

Ref. No.	Part No.	SP	Description
CN1	1-506-470-11	o	CONNECTOR, 5P, MALE
CN2	1-506-477-11	o	CONNECTOR, 12P, MALE
	1-562-157-11	o	PLUG HOUSING, 12P
	1-564-026-00	o	PLUG CONTACT
CN3	1-506-477-11	o	CONNECTOR, 12P, MALE
CN4	1-506-474-11	o	CONNECTOR, 9P, MALE
CN5	1-506-469-11	o	CONNECTOR, 4P, MALE
	1-562-149-11	o	PLUG HOUSING, 4P
	1-564-026-00	o	PLUG CONTACT
CN6	1-506-467-11	o	CONNECTOR, 2P, MALE
	1-562-147-11	o	PLUG HOUSING, 2P
	1-564-026-00	o	PLUG CONTACT
CN7	1-506-472-11	o	CONNECTOR, 7P, MALE
CN8	1-506-471-11	o	CONNECTOR, 6P, MALE
CN9	1-506-475-11	o	CONNECTOR, 10P, MALE
D1	8-719-923-48	s	1S2348H
D2	8-719-100-05	s	1S2837
D3	8-719-100-03	s	1S2835
D4	8-719-100-05	s	1S2837
D5	8-719-100-05	s	1S2837
D6	8-719-106-16	s	RD6.8M-B1
D7	8-719-100-03	s	1S2835
D8	8-719-105-32	s	RD2.7M-B2
D9	8-719-101-23	s	1SS123
D10	8-719-101-23	s	1SS123
D11	8-719-100-03	s	1S2835
D12	8-719-106-70	s	RD12M-B1
D13	8-719-105-63	s	RD4.3M-B1
D14	8-719-101-23	s	1SS123
D15	8-719-100-05	s	1S2837
D16	8-719-938-75	s	SB05-05CP
IC1	8-759-981-66	s	LM2903M: RAYTHEON
IC2	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC3	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC4	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC5	8-759-208-11	s	TC4053BFHB: TOSHIBA
IC6	8-759-103-36	s	UPC4558G2: NEC
IC7	8-759-605-18	s	CX518: SONY
IC8	8-759-981-59	s	RC2043MD: RAYTHEON
IC9	8-759-208-11	s	TC4053BFHB: TOSHIBA
L1	1-408-413-00	s	22uH
L2	1-408-413-00	s	22uH
L3	1-410-478-11	s	47uH
L4	1-410-478-11	s	47uH
L6	1-410-478-11	s	47uH
L7	1-408-413-00	s	22uH
L8	1-408-413-00	s	22uH

Ref. No.	Part No.	SP	Description
Q1	8-729-201-04	s	2SC2878-A
Q2	8-729-201-04	s	2SC2878-A
Q3	8-729-100-75	s	2SA812-M5
Q4	8-729-100-66	s	2SC1623-L6
Q5	8-729-402-19	s	XN6501
Q6	8-729-100-66	s	2SC1623-L6
Q7	8-729-100-75	s	2SA812-M5
Q8	8-729-100-75	s	2SA812-M5
Q9	8-729-402-19	s	XN6501
Q10	8-729-100-75	s	2SA812-M5
Q11	8-729-100-66	s	2SC1623-L6
Q12	8-729-100-66	s	2SC1623-L6
Q13	8-729-100-66	s	2SC1623-L6
Q14	8-729-100-66	s	2SC1623-L6
Q15	8-729-100-75	s	2SA812-M5
Q16	8-729-100-66	s	2SC1623-L6
Q17	8-729-100-66	s	2SC1623-L6
Q18	8-729-100-66	s	2SC1623-L6
Q19	8-729-100-66	s	2SC1623-L6
Q20	8-729-402-16	s	XN4608
Q21	8-729-109-41	s	2SK94-X1
Q22	8-729-402-19	s	XN6501
Q23	8-729-402-16	s	XN4608
Q24	8-729-403-34	s	XN6534
Q25	8-729-100-75	s	2SA812-M5
Q26	8-729-402-19	s	XN6501
Q27	8-729-402-78	s	XN6401
Q28	8-729-100-66	s	2SC1623-L6
R1	1-249-399-11	s	CARBON 33 5% 1/4W
R2	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R3	1-216-295-00	s	METAL, CHIP 0-OHM 1/10W
R4	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R5	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R6	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R7	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R8	1-215-393-00	s	METAL 68 1% 1/6W
R9	1-215-393-00	s	METAL 68 1% 1/6W
R10	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R11	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R12	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R13	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R14	1-216-017-00	s	METAL, CHIP 47 5% 1/10W
R15	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W

Ref. No.	Part No.	SP	Description
R16	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R17	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R18	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R19	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R20	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R21	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R22	1-215-394-00	s	METAL 75 1% 1/6W
R23	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R24	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R25	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R26	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R27	1-216-053-00	s	METAL, CHIP 1.5K 5% 1/10W
R28	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R29	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R30	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R31	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R32	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R33	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R34	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R35	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R36	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R37	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R38	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R39	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R40	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R41	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R42	1-215-393-00	s	METAL 68 1% 1/6W
R43	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R44	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R45	1-216-069-00	s	METAL, CHIP 6.8K 5% 1/10W
R46	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R47	1-216-059-00	s	METAL, CHIP 2.7K 5% 1/10W
R48	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R49	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R50	1-216-075-00	s	METAL, CHIP 12K 5% 1/10W
R51	1-216-105-00	s	METAL, CHIP 220K 5% 1/10W
R52	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R53	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R54	1-215-394-00	s	METAL 75 1% 1/6W
R55	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R56	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R57	1-216-089-00	s	METAL, CHIP 47K 5% 1/10W
R58	1-216-109-00	s	METAL, CHIP 330K 5% 1/10W
R59	1-216-083-00	s	METAL, CHIP 27K 5% 1/10W
R60	1-216-091-00	s	METAL, CHIP 56K 5% 1/10W
R61	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R62	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R63	1-216-089-00	s	METAL, CHIP 47K 5% 1/10W
R64	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R65	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W

Ref. No.	Part No.	SP	Description
R66	1-216-089-00	s	METAL, CHIP 47K 5% 1/10W
R67	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R68	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R69	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R70	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R71	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R72	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R73	1-216-037-00	s	METAL, CHIP 330 5% 1/10W
R74	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R75	1-216-045-00	s	METAL, CHIP 680 5% 1/10W
R76	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R77	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R78	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R79	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R80	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R81	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R82	1-216-005-00	s	METAL, CHIP 15 5% 1/10W
R83	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R84	1-216-121-00	s	METAL, CHIP 1M 5% 1/10W
R85	1-216-025-00	s	METAL, CHIP 100 5% 1/10W
R86	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R87	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R88	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R89	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R90	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R92	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R93	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R94	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R95	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R96	1-216-053-00	s	METAL, CHIP 1.5K 5% 1/10W
R97	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R98	1-216-039-00	s	METAL, CHIP 390 5% 1/10W
R99	1-216-039-00	s	METAL, CHIP 390 5% 1/10W
R100	1-216-298-00	s	METAL, CHIP 2.2 5% 1/10W
R101	1-216-298-00	s	METAL, CHIP 2.2 5% 1/10W
R102	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R103	1-215-394-00	s	METAL 75 1% 1/6W
R104	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R105	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R106	1-216-097-00	s	METAL, CHIP 100K 5% 1/10W
R107	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R108	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R109	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R110	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R111	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R112	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R113	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R114	1-216-049-00	s	METAL, CHIP 1K 5% 1/10W
R115	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W

Ref. No.	Part No.	SP	Description
RV1	1-226-703-11	s	METAL 10K
RV2	1-226-775-11	s	METAL 100K
T1	1-427-270-XX	s	TRANSFORMER, OUTPUT
T2	1-427-487-00	s	TRANSFORMER, OUTPUT

CN-254 BOARD

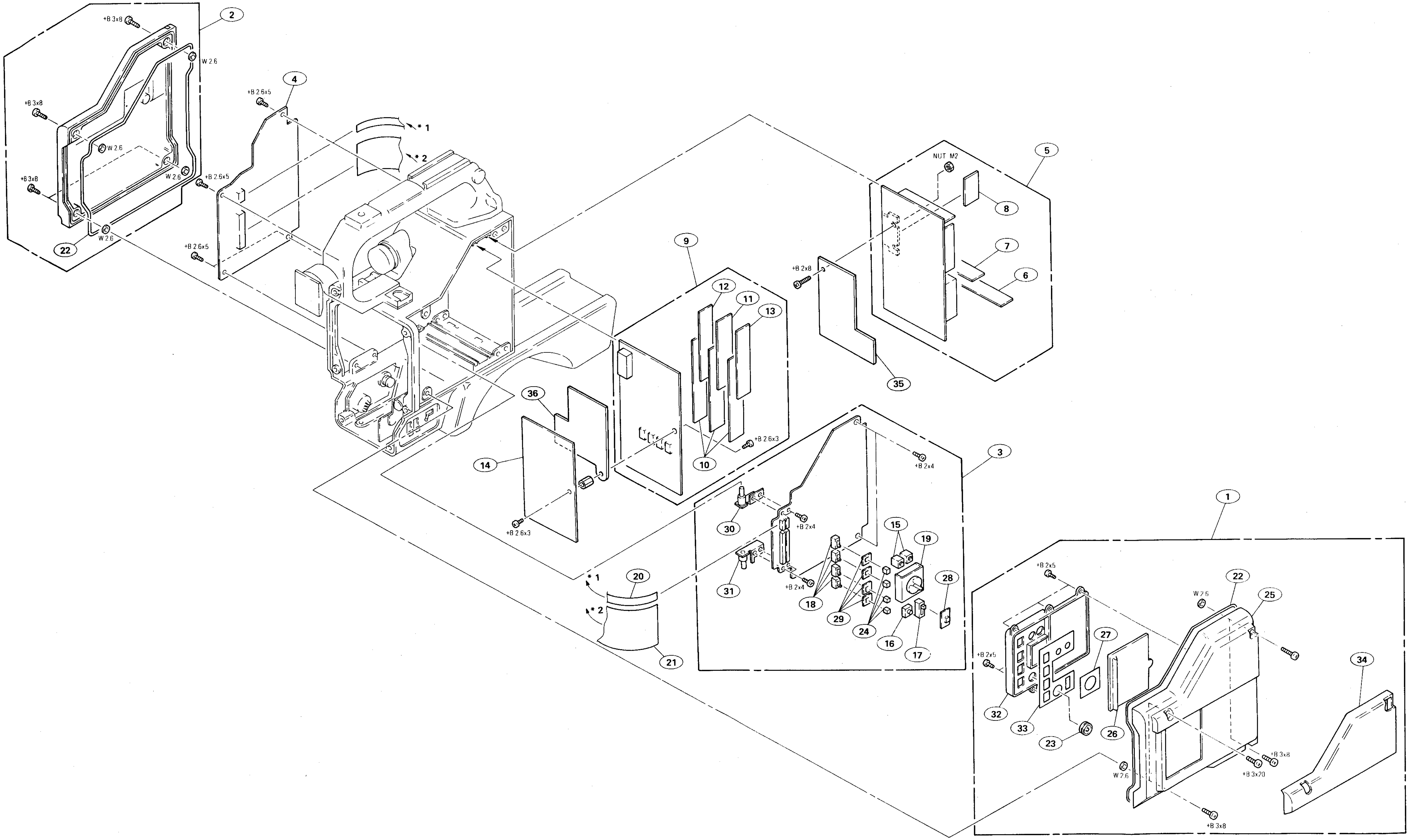
Ref. No.	Part No.	SP	Description
	1-627-920-11	o	PRINTED CIRCUIT BOARD "CN-254"
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
C1	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C2	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C3	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
C4	1-161-051-00	s	CERAMIC 0.01uF 10% 50V
CN4	1-562-154-11	o	HOUSING 9P
JK1	1-507-883-00	s	JACK, SMALL TYPE 4P
JK2	1-566-740-11	s	JACK
S1	1-554-088-00	s	SWITCH, TACTILE

CN-277 BOARD

Ref. No.	Part No.	SP	Description
	1-627-938-11	o	PRINTED CIRCUIT BOARD "CN-277"
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
CN1	1-562-150-11	o	HOUSING 5P
CN1	1-566-581-11	o	RECEPTACLE,MULTI CONNECTOR 50P
CN5	1-562-149-11	o	HOUSING 4P
CN7	1-562-152-11	o	HOUSING, CONNECTOR 7P
CN8	1-562-151-11	o	HOUSING 6P
CN9	1-562-155-11	o	PLUG HOUSING, 10P

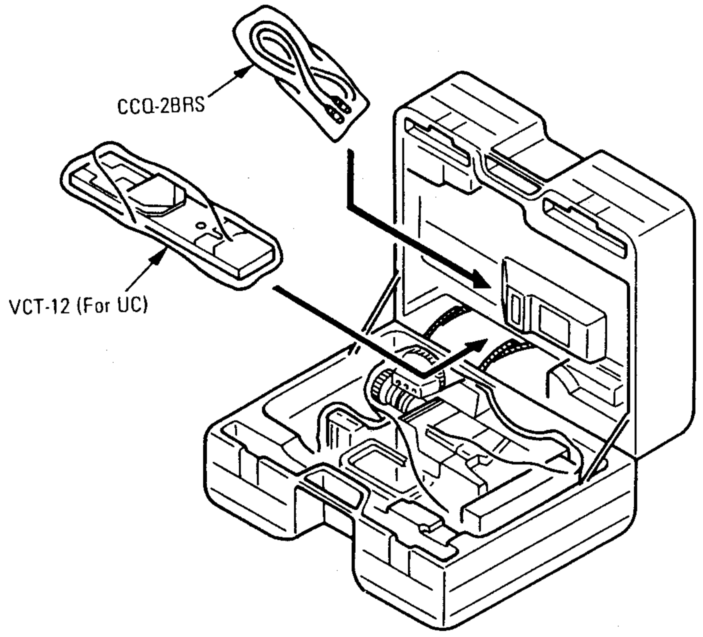
Ref. No.	Part No.	SP	Description
SW-285 BOARD			
	1-627-917-11	o	PRINTED CIRCUIT BOARD "SW-285"
	1-562-738-11	o	HOUSING, CONNECTOR 5P
	1-564-026-00	s	CONTACT, FEMALE, AWG24-30
	1-564-831-11	o	CONTACT, CONNECTOR
CN1	1-506-469-21	o	CONNECTOR, 4P, MALE
CN2	1-506-702-11	o	CONNECTOR POST HEADER,ILG (3P)
	1-561-515-00	o	PLUG HOUSING, 3P
	1-560-372-00	o	PLUG CONTACT
CN3	1-506-702-11	o	CONNECTOR POST HEADER,ILG (3P)
	1-561-515-00	o	PLUG HOUSING, 3P
	1-560-372-00	o	PLUG CONTACT
CN4	1-560-356-00	o	CONNECTOR POST HEADER,ILG (2P)
	1-561-514-00	o	PLUG HOUSING, 2P
	1-560-372-00	o	PLUG CONTACT
Q1	8-729-201-04	s	2SC2878-A
R1	1-249-422-11	s	CARBON 2.7K 5% 1/4W
S1	1-571-767-11	s	SWITCH, SLIDE
S2	1-570-491-11	s	SWITCH, ROTARY
FRAME			
CN102	1-508-942-00	s	CONNECTOR, 14P
CN103	1-561-781-31	s	BNC (RECEPTACLE)
CN104	1-563-096-11	s	CONNECTOR (WITH SW) F 3P
CN105	1-564-603-11	s	CONNECTOR (WITH DC SW) 4P
R1	1-247-826-00	s	CABON 620
SW101	1-552-665-00	s	MICRO "BATT IN"

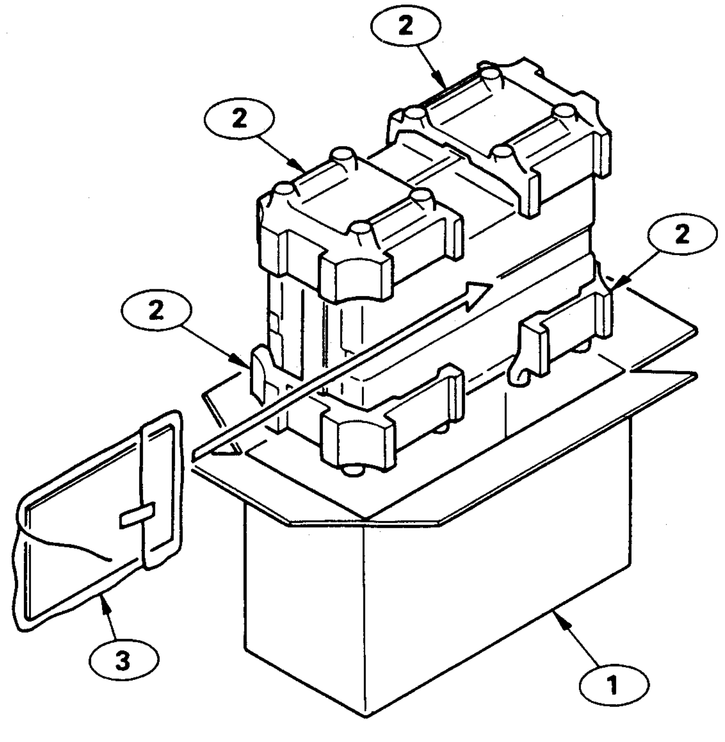
CHASSIS(2) BLOCK


2
+B 3x8
W 2.6
+B 3x8
W 2.6
+B 3x8
W 2.6
+B 2.6x5
W 2.6
22
4
+B 2.6x5
+B 2.6x5
*1
*2
5
NUT M2
8
7
6
+B 2x8
35
9
12
11
13
+B 2.6x3
10
36
14
+B 2.6x3
3
+B 2x4
30
+B 2x4
15
19
31
+B 2x4
18
29
24
28
16
17
*1
20
*2
21
1
+B 2x5
W 2.6
22
25
+B 2x5
27
34
32
33
23
26
+B 3x8
+B 3x20
W 2.6
+B 3x8

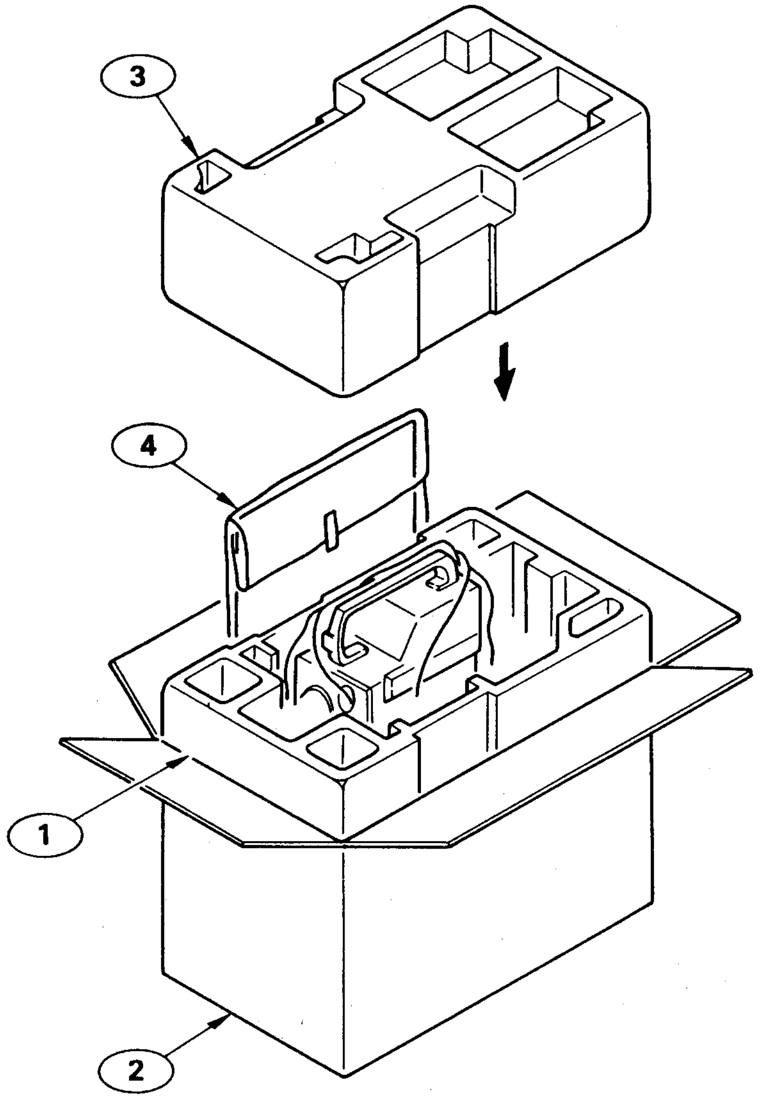
D-4. PACKING MATERIAL AND ACCESSORIES

No.	Parts No.	SP	Description
1	3-699-158-01	o	CARTON, INDIVIDUAL DXC-325K(J,UC)
	3-699-159-01	o	CARTON, INDIVIDUAL DXC-325PK(EK)
	3-699-160-01	o	CARTON, INDIVIDUAL DXC-325L(J,UC)
	3-699-161-01	o	CARTON, INDIVIDUAL DXC-325PL(EK)
2	3-699-162-01	o	CUSHION
3	3-701-630-01	o	BAG, POLY
	3-786-608-11	s	MANUAL, INSTRUCTION





No.	Parts No.	SP	Description
1	3-699-154-01	o	CUSHION (REAR)
2	3-699-155-01	o	CARTON, INDIVIDUAL DXC-325PH(EK)
	3-699-156-01	o	CARTON, INDIVIDUAL DXC-325H(J,UC)
3	3-699-157-01	o	CUTION (FRONT)
4	3-701-630-01	o	BAG, POLY
	3-786-608-01	s	MANUAL, INSTRUCTION(J,UC)
	3-786-608-31	s	MANUAL, INSTRUCTION(UC)
	3-786-608-41	s	MANUAL, INSTRUCTION(EK)
	3-786-608-51	s	MANUAL, INSTRUCTION(EK)



1.5INCH ELECTRONIC VIEWFINDER

SPECIFICATIONS

Picture tube	1.5-inch monochrome
Indicators	REC/TALLY indicator BATT indicator SHUTTER indicator GAIN UP indicator
Resolution	400 lines
Power requirements	12 V DC
Power consumption	2.3 W
Weight	Approx. 500 g (1 lb 2 oz)
Dimensions	Approx. 186 × 63 × 189 mm (w/h/d) ($7\frac{3}{8} \times 2\frac{1}{2} \times 7\frac{1}{2}$ inches)
Supplied accessory	Operating Instructions (1)

Design and specifications are subject to change without notice.

SONY®
SERVICE MANUAL

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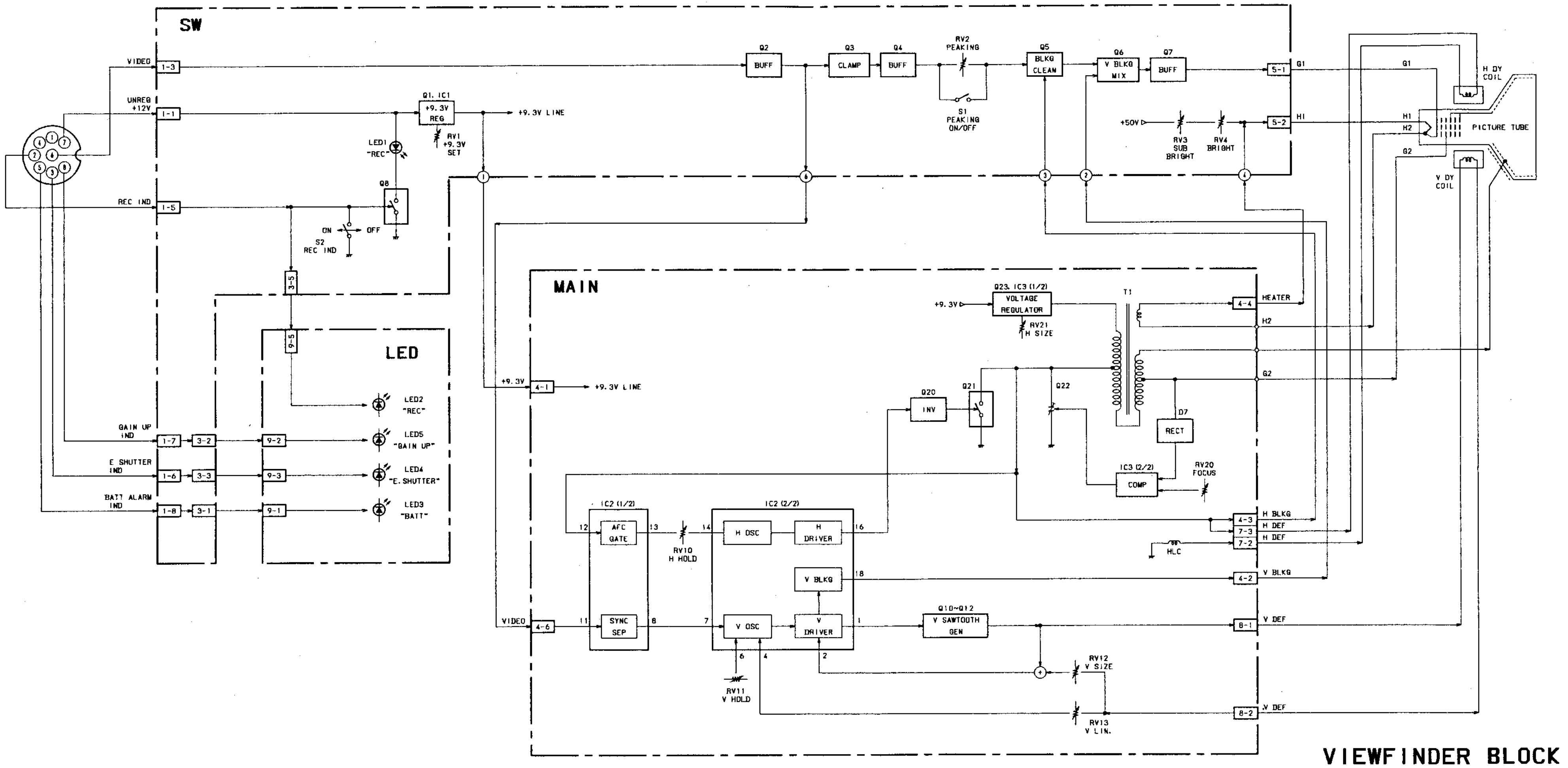
SECTION A
BLOCK DIAGRAM


SW
VIDEO
1-3
UNREG +12V
1-1
Q1, IC1
+9.3V REG
RV1 +9.3V SET
+9.3V LINE
LED1 "REC"
Q8
REC IND
1-5
ON OFF
S2 REC IND
3-5
9-5
LED
LED2 "REC"
GAIN UP IND
1-7
3-2
9-2
LED5 "GAIN UP"
E SHUTTER IND
1-6
3-3
9-3
LED4 "E.SHUTTER"
BATT ALARM IND
1-8
3-1
9-1
LED3 "BATT"
Q2
BUFF
Q3
CLAMP
Q4
BUFF
RV2 PEAKING
S1 PEAKING ON/OFF
Q5
BLKG CLEAN
Q6
V BLKG MIX
Q7
BUFF
5-1
G1
+50V
RV3 SUB BRIGHT
RV4 BRIGHT
5-2
H1
H2
G2
H DY COIL
PICTURE TUBE
V DY COIL
MAIN
+9.3V
4-1
+9.3V LINE
Q23, IC3 (1/2)
VOLTAGE REGULATOR
RV21 H SIZE
T1
4-4
HEATER
H2
G2
Q20
INV
Q21
Q22
D7
RECT
IC3 (2/2)
COMP
RV20 FOCUS
IC2 (1/2)
AFC GATE
12
13
RV10 H HOLD
IC2 (2/2)
14
H OSC
H DRIVER
16
V BLKG
18
4-3
H BLKG
7-3
H DEF
7-2
H DEF
HLC
4-2
V BLKG
VIDEO
4-6
11
SYNC SEP
8
7
V OSC
V DRIVER
1
6
4
2
RV11 V HOLD
Q10~Q12
V SAWTOOTH GEN
8-1
V DEF
RV12 V SIZE
RV13 V LIN.
8-2
V DEF
1
2
3
4
6

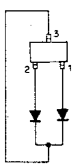
VIEWFINDER BLOCK

SECTION B
SEMICONDUCTOR PIN ASSIGNMENTS

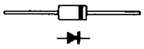
The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

< DIODE >

TOP VIEW (SCALE 4/1)



1S2837
DAN202K



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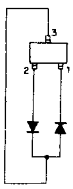
1SS136
ERA15-06
ERA22-08

TOP VIEW (SCALE 4/1)



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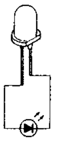

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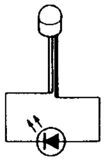

TLO102A
TLR109A

<TRANSISTOR >

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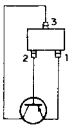

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2SB624

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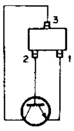

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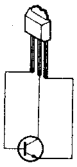
2SC2814
2SC3722K



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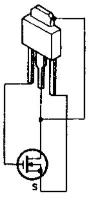
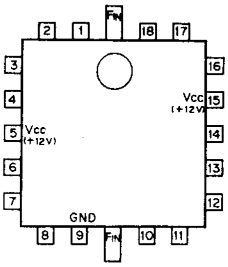
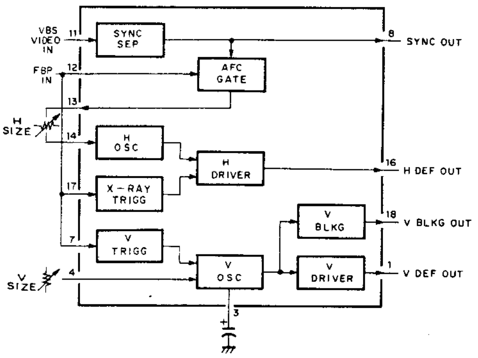


2SK612

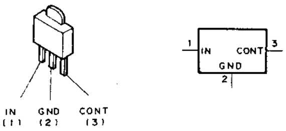
< IC >

HA11423MP (HITACHI) FLAT PACKAGE
TV H/V SYNC SIGNAL PROCESSOR
– TOP VIEW –

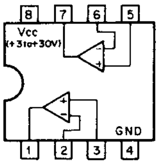

FIN
2
1
18
17
3
4
5
6
7
16
15
14
13
12
Vcc (+12V)
Vcc (+12V)
GND
8
9
FIN
10
11


VBS VIDEO IN
11
SYNC SEP
8
SYNC OUT
FBP IN
12
AFC GATE
13
H SIZE
14
H OSC
H DRIVER
16
H DEF OUT
17
X-RAY TRIGG
V BLKG
18
V BLKG OUT
7
V TRIGG
V SIZE
4
V OSC
V DRIVER
1
V DEF OUT
3

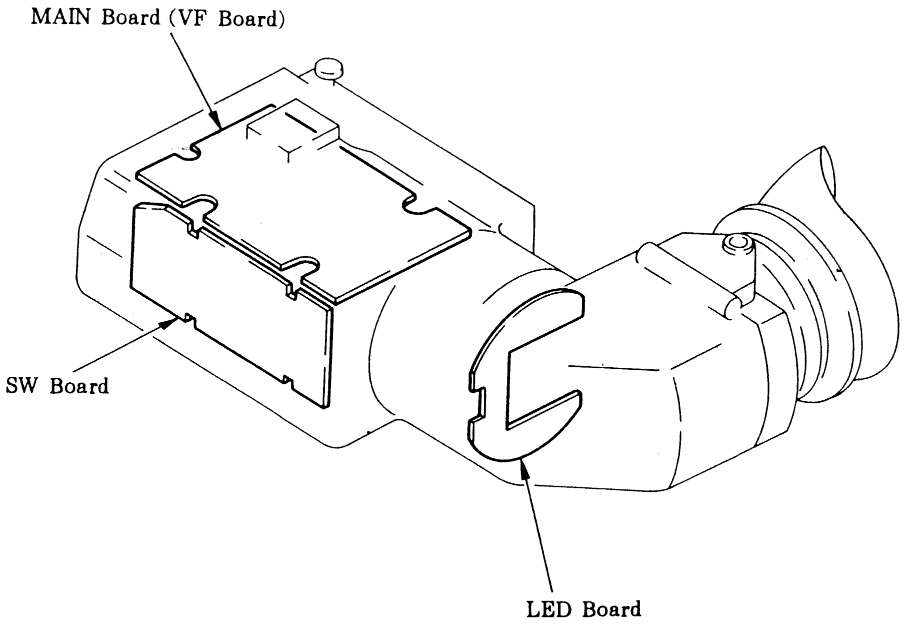
M5236ML (MITSUBISI)
ADJUSTABLE VOLTAGE REGULATOR


IN (1)
GND (2)
CONT (3)
1
IN
CONT
3
GND
2

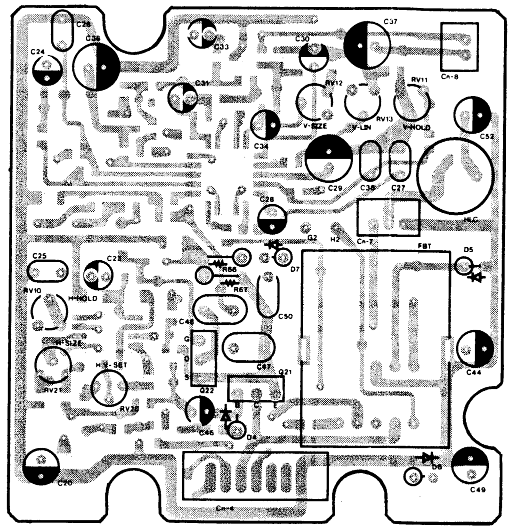
uPC358G2 (NEC) FLAT PACKAGE
DUAL OPERATIONAL AMPLIFIERS
– TOP VIEW –


8
7
6
5
Vcc (+3 to +30V)
GND
1
2
3
4

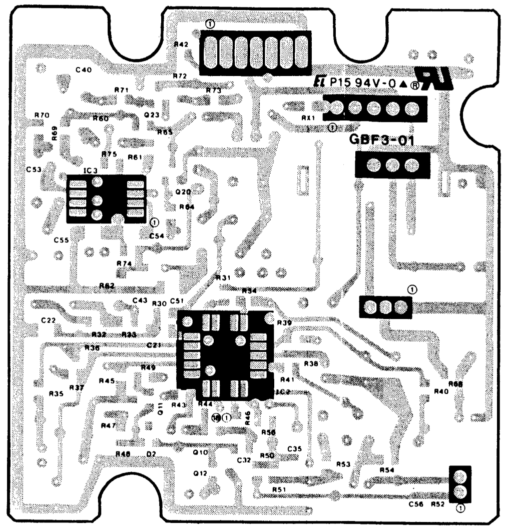
SECTION C
SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS


MAIN Board (VF Board)
SW Board
LED Board

MAIN BOARD

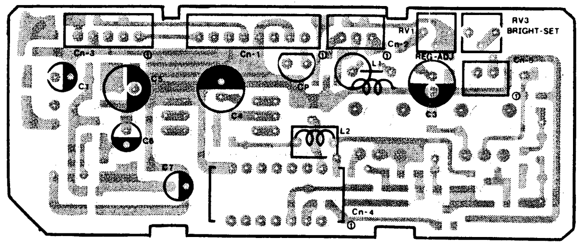

Cn-8
Cn-7
Cn-6
FB1
D5
D6
C44
C49
C20
C24
RV10
RV11
RV12
RV13
HOLD
H-SET
Q27
Q21
C52
C37

COMPONENT SIDE

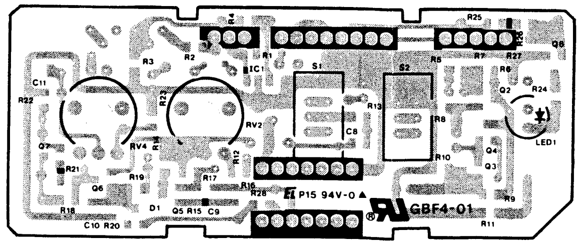

P15 94V-0
GBF3-01
IC3
IC2
①

SOLDERING SIDE

SW BOARD

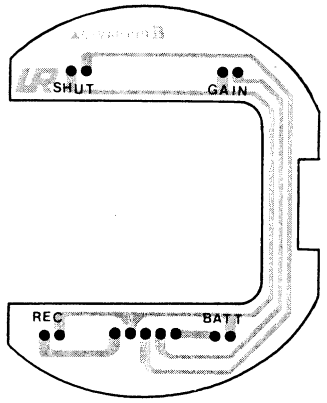

RV3
BRIGHT-SET
RV1
Cn-3
Cn-1
Cn-4
L2
D1

COMPONENT SIDE

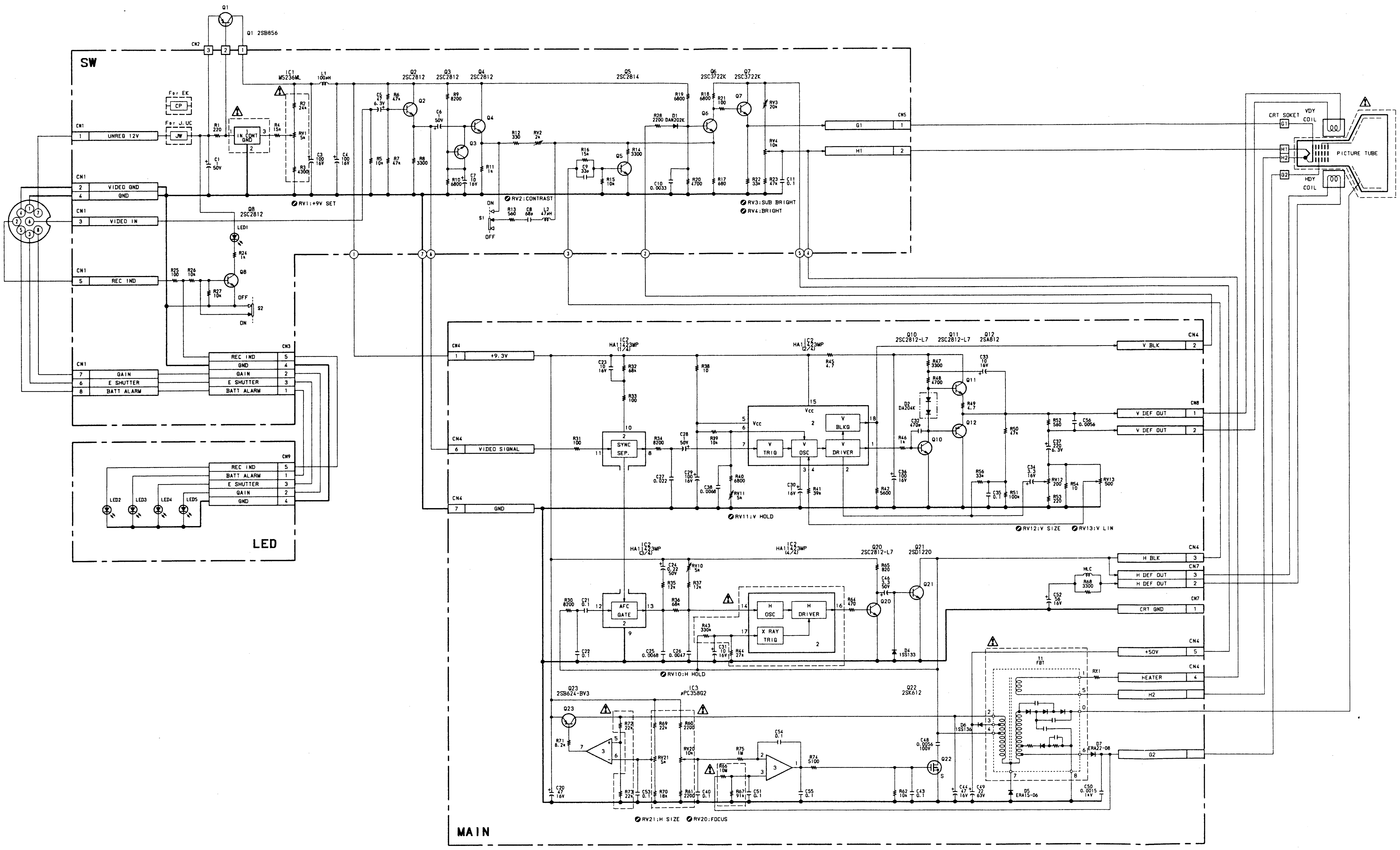

P15 94V-0
GBF4-01
S1
S2
RV2
RV4
IC1
LED1

SOLDERING SIDE

LED BOARD


SHUT
GAIN
REC
BATT

COMPONENT SIDE


SW
Q1 2SB856
CN2
CN1
UNREG 12V
VIDEO GND
GND
VIDEO IN
REC IND
GAIN
E SHUTTER
BATT ALARM
For EK
CP
For J,UC
JW
IC1 M5236ML
IN CONT GND
L1 100μH
Q2 2SC2812
Q3 2SC2812
Q4 2SC2812
Q5 2SC2814
Q6 2SC3722K
Q7 2SC3722K
Q8 2SC2812
RV1:+9V SET
RV2:CONTRAST
RV3:SUB BRIGHT
RV4:BRIGHT
S1
ON
OFF
S2
LED1
CN5
G1
H1
CN3
CN9
LED2
LED3
LED4
LED5
LED
CRT SOKET
VDY COIL
HDY COIL
PICTURE TUBE
G1
H1
H2
G2
MAIN
CN4
+9.3V
VIDEO SIGNAL
GND
IC2 HA11423MP (1/4)
IC2 HA11423MP (2/4)
IC2 HA11423MP (3/4)
IC2 HA11423MP (4/4)
SYNC SEP.
V TRIG
V OSC
V BLKG
V DRIVER
Vcc
Q10 2SC2812-L7
Q11 2SC2812-L7
Q12 2SA812
V BLK
CN8
V DEF OUT
V DEF OUT
RV11:V HOLD
RV12:V SIZE
RV13:V LIN
AFC GATE
H OSC
H DRIVER
X RAY TRIG
Q20 2SC2812-L7
Q21 2SD1220
H BLK
CN7
H DEF OUT
H DEF OUT
CRT GND
HLC
RV10:H HOLD
Q23 2SB624-BV3
IC3 μPC358G2
Q22 2SK612
T1 FBT
+50V
HEATER
H2
G2
D4 1SS133
D5 ERA15-06
D6 1SS136
D7 ERA22-08
RV21:H SIZE
RV20:FOCUS

SECTION D
SPARE PARTS

D-1. PARTS INFORMATION

1. **Safety Related Component Warning**

   Components identified by shading marked with ! on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to "**accommodating the improved parts and/or engineering changes**" or "**standardization of genuine parts.**" This manual's exploded view and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present." Regarding engineering parts and diagrams changes in our engineering department, refer SONY service bulletions and service manual supplements.

3. **The parts marked with "S" in the SP column** of the exploded views and electical spare parts list are nomally required for routine service work. Orders for parts marked with "O" will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

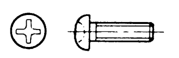
5. **Abbreviation**

REF.No.	DESCRIPTION	REF.No.	DESCRIPTION	REF.No.	DESCRIPTION
C	CAPACITOR	IC	IC	RP	RESISTOR BLOCK
CN	CONNECTOR	J	JACK	RV	VARIABLE RESISTOR
CV	VARIABLE CAPACITOR	L	INDUCTOR	S	SWITCH
D	DIODE	LV	VARIABLE INDUCTOR	T	TRANSFORMER
DL	DELAY LINE	Q	TRANSISTOR	X	OSCILLATOR
FL	FILTER	R	RESISTOR		

All capacitors are in micro farads unless otherwise specified.
All inductors are in micro henries unless otherwise specified.
All resistors are in ohms.

D-2. SCREWS

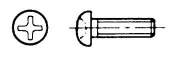
+B
Bzn-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-00
x 4	772-10
x 5	772-20
x 6	772-30
x 8	772-40
x 10	772-50
x 12	772-60
x 14	772-70
x 16	772-80
x 20	–
2.6 x 3	775-00
x 4	775-10
x 5	775-20
x 6	773-95
x 8	775-40
x 10	775-50
x 12	775-60
x 14	775-70
x 16	775-80
x 20	775-90

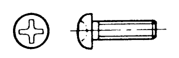
+B
Cr-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-08
x 4	772-18
x 5	771-06
x 6	772-38
x 8	772-48
x 10	772-58
x 12	772-68
x 14	772-78
x 16	772-88
x 20	–
2.6 x 3	775-08
x 4	773-86
x 5	770-87
x 6	770-67
x 8	770-99
x 10	773-87
x 12	775-68
x 14	775-78
x 16	775-88
x 20	773-91

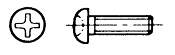
+B
Bzn-N



7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-09
x 4	545-09
x 5	546-09
x 6	547-09
x 8	548-09
x 10	549-09
x 12	550-09
x 14	551-09
x 16	552-09
x 20	553-09
x 30	555-09
4 x 4	558-09
x 5	559-09
x 6	560-09
x 8	561-09
x 10	562-09
x 12	563-09
x 14	564-09
x 16	565-09
x 20	566-09
5 x 8	574-09
x 10	575-09
x 12	576-09
x 14	577-09
x 16	578-09
x 20	579-09

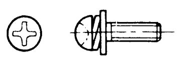
+B
Cr-N



7-682-□□□-□□

SIZE	Parts No.
3 x 3	544-04
x 4	545-04
x 5	546-04
x 6	547-04
x 8	548-04
x 10	549-04
x 12	550-04
x 14	551-04
x 16	552-04
x 20	553-04
4 x 4	558-04
x 5	559-04
x 6	560-04
x 8	561-04
x 10	562-04
x 12	563-04
x 14	564-04
x 16	565-04
x 20	566-04
5 x 8	574-04
x 10	575-04
x 12	576-04
x 14	577-04
x 16	578-04
x 20	579-04

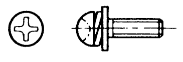
+PSW
Czn-N



7-621-□□□-□□

SIZE	Parts No.
2.6 x 5	759-35
x 6	759-45
x 8	759-65
x 10	759-75
x 12	759-85
x 14	759-95
x 16	760-05
x 20	760-15
x 25	760-65

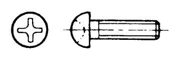
+PSW
Czn-N



7-682-□□□-□□

SIZE	Parts No.
3 x 6	947-01
x 8	948-01
x 10	949-01
x 12	950-01
x 14	951-01
x 16	952-01
x 20	953-01
x 25	954-01
x 30	955-01
x 35	956-01
x 40	957-01
4 x 8	961-01
x 10	962-01
x 12	963-01
x 14	964-01
x 16	965-01
x 20	966-01
x 25	967-01
x 30	968-01
x 35	969-01
x 40	970-01

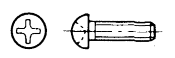
PRECISION +P
Cr-N



7-627-□□□-□□

SIZE	Parts No.
1.7 x 1.6	–
x 1.8	–
x 2	552-27
x 2.2	552-87
x 2.5	552-07
x 2.8	–
x 3	552-37
x 3.5	–
x 4	552-47
x 4.5	552-67
x 5	552-57
x 5.5	557-07
x 6	552-77
2 x 1.8	554-37
x 2	553-17
x 2.2	554-07
x 2.5	553-27
x 2.8	–
x 3	553-37
x 3.5	554-17
x 4	553-47
x 4.5	553-57
x 5	553-67
x 5.5	–
x 6	554-27
x 7	553-87
x 8	553-97
x 10	553-77
2.6 x 2.8	556-07
x 3	–
x 3.5	–
x 4	556-37
x 4.5	–
x 5	556-57
x 5.5	–
x 6	556-77
x 7	–
x 8	556-97
x 9	–
x 10	557-47

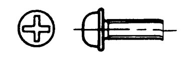
+P
Czn-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	255-15
x 4	255-25
x 5	255-35
x 6	255-45
x 8	255-55
x 10	255-65
x 12	255-75
x 14	255-85
x 16	256-05
x 20	256-25
2.3 x 5	257-35
x 6	257-45
x 8	257-55
x 10	257-65
x 12	257-75
x 14	257-85
x 16	258-05
x 20	258-25
2.6 x 3	259-15
x 4	259-25
x 5	259-35
x 6	259-45
x 8	259-55
x 10	259-65
x 12	259-75
x 14	259-85
x 16	260-05
x 20	260-25

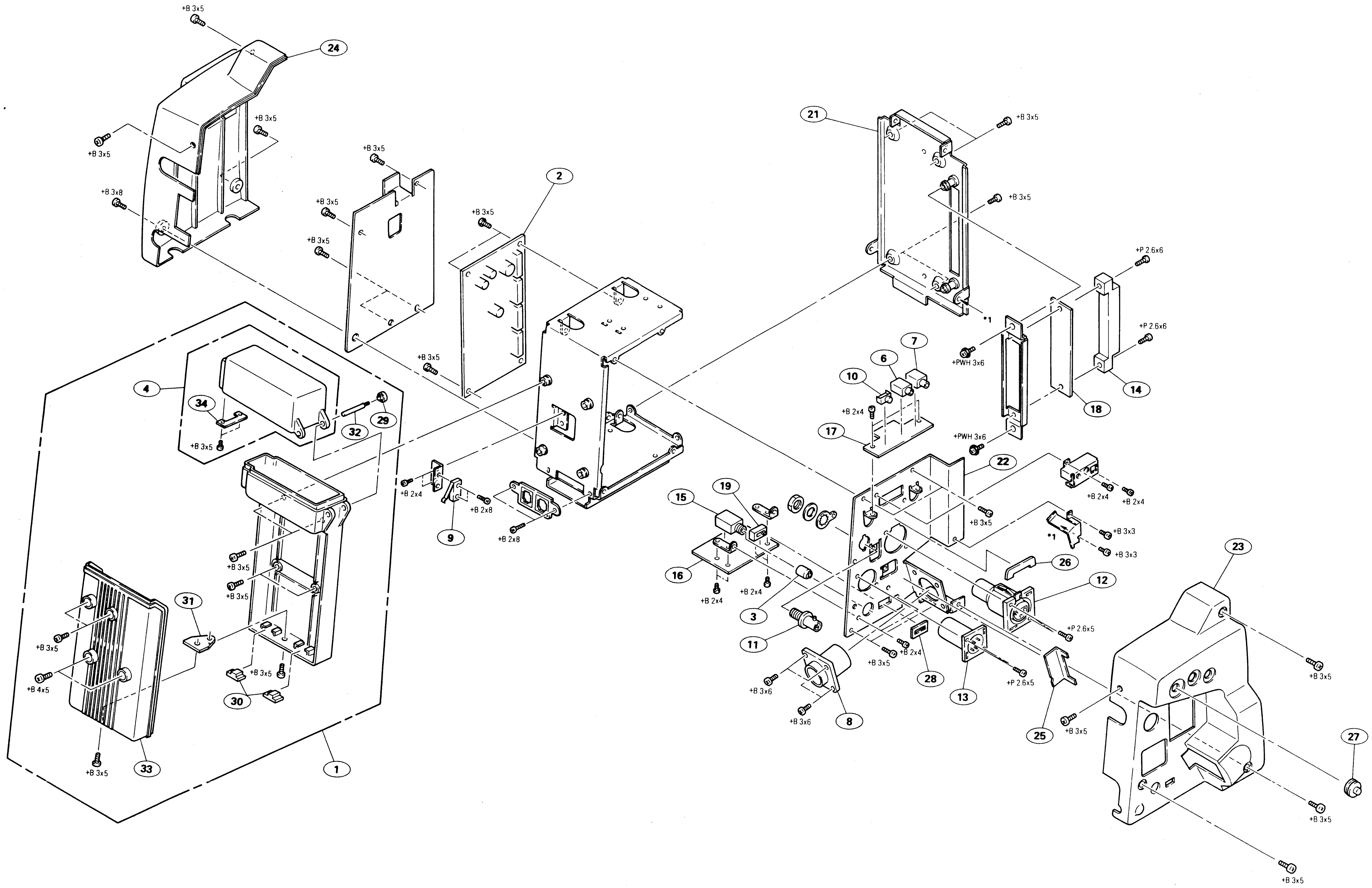
+PWH



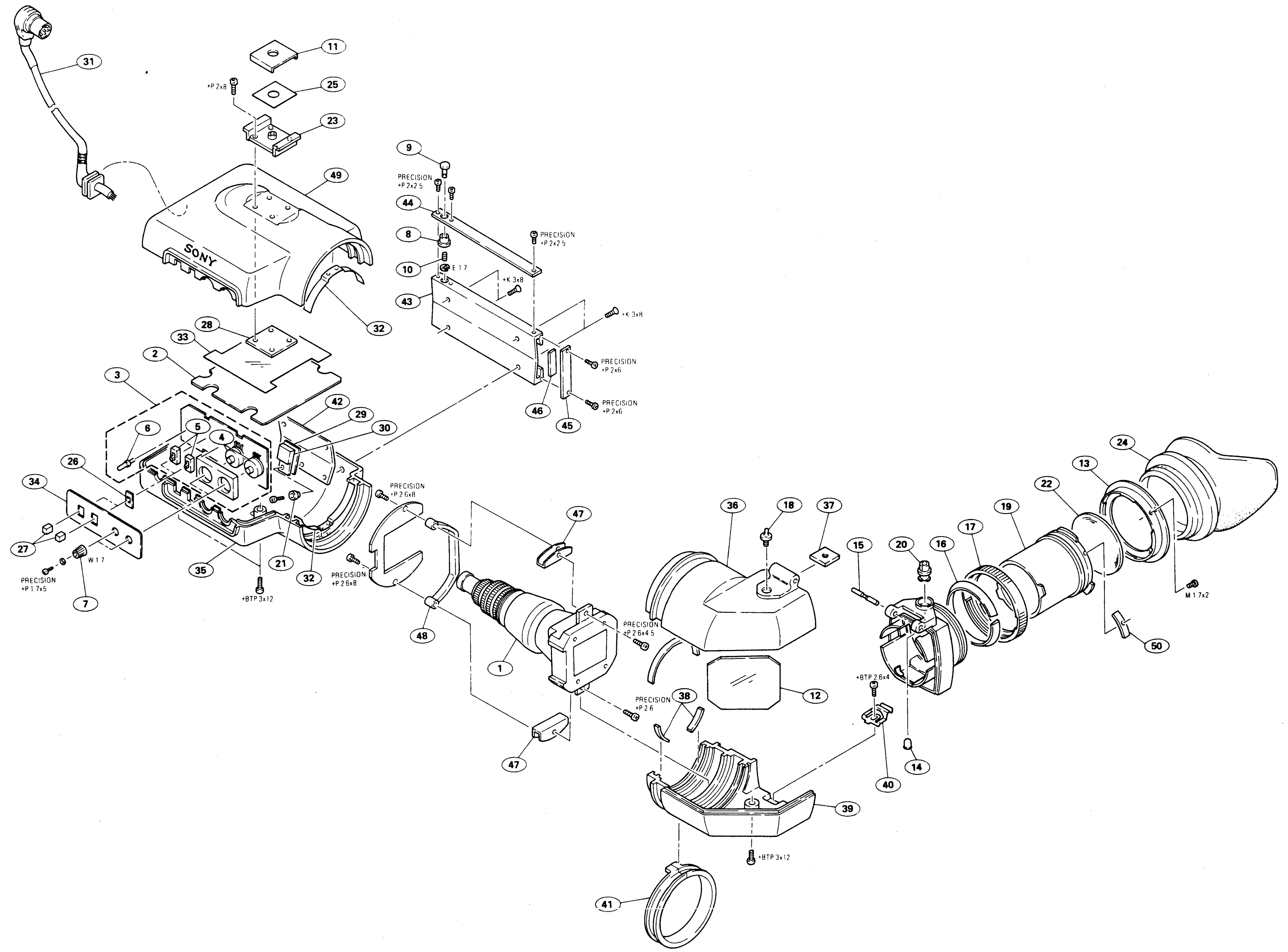
7-682-□□□-□□

SIZE	Parts No.
2.6 x 4	
x 5	902-11
x 6	902-21
x 8	902-31
x 10	
x 12	902-51
x 14	
3 x 5	903-01
x 6	903-11
x 8	903-21
x 10	903-31
x 12	903-41
x 14	
4 x 6	904-01
x 8	904-11
x 10	904-21
x 12	904-31
x 14	904-41
x 16	
x 20	

EXPLODED VIEW


+B 3x5
24
+B 3x5
+B 3x5
+B 3x8
+B 3x5
+B 3x5
+B 3x5
+B 3x5
2
+B 3x5
21
+B 3x5
+B 3x5
+P 2.6x6
+P 2.6x6
*1
+PWH 3x6
7
6
10
+B 2x4
17
+PWH 3x6
18
14
4
34
+B 3x5
32
29
+B 2x4
9
+B 2x8
+B 2x8
15
19
16
+B 2x4
+B 2x4
3
11
22
+B 3x5
+B 2x4
+B 2x4
*1
+B 3x3
+B 3x3
26
12
23
+P 2.6x5
+B 3x5
+B 3x5
+B 3x5
31
+B 3x5
+B 4x5
+B 3x5
30
+B 3x5
33
1
+B 3x5
+B 2x4
28
+B 3x6
+B 3x6
8
13
+P 2.6x5
25
+B 3x5
+B 3x5
27
+B 3x5
+B 3x5

D-3. EXPLODED VIEW


31
11
+P 2x8
25
23
49
SONY
32
28
33
2
3
6
5
4
42
29
30
26
34
27
PRECISION
+P 1.7x5
W 1 7
7
35
+BTP 3x12
21
32
9
PRECISION
+P 2x2 5
44
8
10
E 1 7
43
PRECISION
+P 2x2 5
+K 3x8
+K 3x8
PRECISION
+P 2x6
PRECISION
+P 2x6
46
45
PRECISION
+P 2 6x8
PRECISION
+P 2 6x8
48
47
1
PRECISION
+P 2 6x4 5
PRECISION
+P 2 6
38
47
36
18
37
12
39
+BTP 3x12
41
15
20
16
17
19
22
13
24
M 1.7x2
50
+BTP 2.6x4
40
14

No.	Parts No.	SP	Description
⚠1	1-546-078-11	s	CRT/DY ASSY
2	1-589-128-11	o	MAIN BOARD
3	1-589-129-11	o	SW BOARD (FOR UC)
	1-589-129-21	o	SW BOARD (FOR EK)
4	1-230-075-11	s	CARBON 2K "CONTR" "BRIGHT"
5	1-570-845-11	s	SWITCH, SLIDE "PEAKING ON/OFF" "TALLY ON/OFF"
6	1-994-802-01	s	LED, SLH-56VT
7	2-277-453-00	o	KNOB, CONTROL
8	2-277-456-00	o	COLLER, STOPPER
9	2-277-457-00	s	KNOB, STOPPER
10	2-277-466-01	o	SPRING, COMPRESSION
11	2-277-468-00	o	PLATE, ORNAMENTAL, CAMERA SHOE
12	2-381-411-00	o	MIRROR
13	2-381-426-02	o	RING, LENS
14	2-381-461-02	s	PIN, BLIND
15	2-381-462-01	o	PIN
16	2-381-466-01	o	RING, RETAINER
17	2-381-467-01	o	RING (2), LENS
18	2-381-468-01	s	PIN, STOPPER
19	2-381-470-02	o	HOLDER, LENS
20	2-381-472-02	o	STOPPER
21	2-832-007-00	s	BUSHING (K), INSULATING
22	3-657-626-00	o	LUPE, VF
23	3-657-700-00	s	BRACKET, ACCESSORY
24	3-657-771-02	s	EYECUP (2)
25	3-672-213-00	o	SHEET, ADHESIVE
26	3-680-604-01	o	PLATE, BLIND
27	3-680-605-00	o	CAP, SLIDE
28	3-688-709-01	o	NUT, PLATE, SHOE
29	3-703-037-00	s	INSULATOR, TO-220
30	8-829-315-63	s	TRANSISTOR, 2SB856
31	9-994-797-01	s	CABLE, VF
32	9-994-811-01	o	SPRING, PLATE
33	9-994-812-01	o	INSULATOR
34	9-994-813-01	o	LABEL, SW
35	9-994-814-01	o	CASE, BOTTOM
36	9-994-815-01	o	HOLDER T, OUTSIDE
37	9-994-816-01	o	PLATE, NUT
38	9-994-817-01	o	MOLT
39	9-994-818-01	o	HOLDER B, OUTSIDE
40	9-994-819-01	o	PIN, LOCK
41	9-994-820-01	o	LING, SLIDE
42	9-994-821-01	o	NUT, PLATE, CASE
43	9-994-822-01	o	GUIDE, VF SLIDE
44	9-994-823-01	o	LABEL, SLIDE
45	9-994-824-01	o	STOPPER
46	9-994-825-01	o	RUBBER, STOPPER
47	9-994-826-01	o	STOPPER, PWB
48	9-994-827-01	o	COLLER
49	9-998-810-00	o	CASE, TOP
50	2-381-493-01	o	PLATE, STOPPER

Ser No. 30981 and higher (J)
12091 and higher (UC)
42851 and higher (EK)

D-4. ELECTRICAL PARTS

RESISTOR, CHIP

1/10W
0 - 3.3M (E12) +-5% 1/10W

Ref. No.	Part No.	SP	Description
	1-216-295-00	s	RES, CHIP 0 5% 1/10W
	1-216-298-00	s	RES, CHIP 2.2 5% 1/10W
	1-216-302-00	s	RES, CHIP 2.7 5% 1/10W
	1-216-304-00	s	RES, CHIP 3.3 5% 1/10W
	1-216-306-00	s	RES, CHIP 3.9 5% 1/10W
	1-216-308-00	s	RES, CHIP 4.7 5% 1/10W
	1-216-309-00	s	RES, CHIP 5.6 5% 1/10W
	1-216-311-00	s	RES, CHIP 6.8 5% 1/10W
	1-216-313-00	s	RES, CHIP 8.2 5% 1/10W
	1-216-001-00	s	RES, CHIP 10 5% 1/10W
	1-216-003-00	s	RES, CHIP 12 5% 1/10W
	1-216-005-00	s	RES, CHIP 15 5% 1/10W
	1-216-007-00	s	RES, CHIP 18 5% 1/10W
	1-216-009-00	s	RES, CHIP 22 5% 1/10W
	1-216-011-00	s	RES, CHIP 27 5% 1/10W
	1-216-013-00	s	RES, CHIP 33 5% 1/10W
	1-216-015-00	s	RES, CHIP 39 5% 1/10W
	1-216-017-00	s	RES, CHIP 47 5% 1/10W
	1-216-019-00	s	RES, CHIP 56 5% 1/10W
	1-216-021-00	s	RES, CHIP 68 5% 1/10W
	1-216-023-00	s	RES, CHIP 82 5% 1/10W
	1-216-025-00	s	RES, CHIP 100 5% 1/10W
	1-216-027-00	s	RES, CHIP 120 5% 1/10W
	1-216-029-00	s	RES, CHIP 150 5% 1/10W
	1-216-031-00	s	RES, CHIP 180 5% 1/10W
	1-216-033-00	s	RES, CHIP 220 5% 1/10W
	1-216-035-00	s	RES, CHIP 270 5% 1/10W
	1-216-037-00	s	RES, CHIP 330 5% 1/10W
	1-216-039-00	s	RES, CHIP 390 5% 1/10W
	1-216-041-00	s	RES, CHIP 470 5% 1/10W
	1-216-043-00	s	RES, CHIP 560 5% 1/10W
	1-216-045-00	s	RES, CHIP 680 5% 1/10W
	1-216-047-00	s	RES, CHIP 820 5% 1/10W
	1-216-049-00	s	RES, CHIP 1k 5% 1/10W
	1-216-051-00	s	RES, CHIP 1.2k 5% 1/10W
	1-216-053-00	s	RES, CHIP 1.5k 5% 1/10W
	1-216-055-00	s	RES, CHIP 1.8k 5% 1/10W
	1-216-057-00	s	RES, CHIP 2.2k 5% 1/10W
	1-216-059-00	s	RES, CHIP 2.7k 5% 1/10W
	1-216-061-00	s	RES, CHIP 3.3k 5% 1/10W
	1-216-063-00	s	RES, CHIP 3.9k 5% 1/10W
	1-216-065-00	s	RES, CHIP 4.7k 5% 1/10W
	1-216-067-00	s	RES, CHIP 5.6k 5% 1/10W
	1-216-069-00	s	RES, CHIP 6.8k 5% 1/10W
	1-216-071-00	s	RES, CHIP 8.2k 5% 1/10W
	1-216-073-00	s	RES, CHIP 10k 5% 1/10W
	1-216-075-00	s	RES, CHIP 12k 5% 1/10W
	1-216-077-00	s	RES, CHIP 15k 5% 1/10W
	1-216-079-00	s	RES, CHIP 18k 5% 1/10W
	1-216-081-00	s	RES, CHIP 22k 5% 1/10W
	1-216-083-00	s	RES, CHIP 27k 5% 1/10W
	1-216-085-00	s	RES, CHIP 33k 5% 1/10W
	1-216-087-00	s	RES, CHIP 39k 5% 1/10W
	1-216-089-00	s	RES, CHIP 47k 5% 1/10W
	1-216-091-00	s	RES, CHIP 56k 5% 1/10W
	1-216-093-00	s	RES, CHIP 68k 5% 1/10W
	1-216-095-00	s	RES, CHIP 82k 5% 1/10W
	1-216-097-00	s	RES, CHIP 100k 5% 1/10W
	1-216-099-00	s	RES, CHIP 120k 5% 1/10W
	1-216-101-00	s	RES, CHIP 150k 5% 1/10W
	1-216-103-00	s	RES, CHIP 180k 5% 1/10W
	1-216-105-00	s	RES, CHIP 220k 5% 1/10W
	1-216-107-00	s	RES, CHIP 270k 5% 1/10W
	1-216-109-00	s	RES, CHIP 330k 5% 1/10W
	1-216-111-00	s	RES, CHIP 390k 5% 1/10W
	1-216-113-00	s	RES, CHIP 470k 5% 1/10W
	1-216-115-00	s	RES, CHIP 560k 5% 1/10W
	1-216-117-00	s	RES, CHIP 680k 5% 1/10W
	1-216-119-00	s	RES, CHIP 820k 5% 1/10W
	1-216-121-00	s	RES, CHIP 1.0M 5% 1/10W
	1-216-123-00	s	RES, CHIP 1.2M 5% 1/10W
	1-216-125-00	s	RES, CHIP 1.5M 5% 1/10W
	1-216-127-00	s	RES, CHIP 1.8M 5% 1/10W
	1-216-129-00	s	RES, CHIP 2.2M 5% 1/10W
	1-216-131-00	s	RES, CHIP 2.7M 5% 1/10W
	1-216-133-00	s	RES, CHIP 3.3M 5% 1/10W

MAIN BOARD

Ref. No.	Part No.	SP	Description
	1-589-128-11	o	MOUNTED CIRCUIT BOARD "MAIN"
	9-994-794-01	s	CRT
C20	9-994-781-01	s	TANTALUM 47 16V
C21	1-163-038-11	s	CHIP CERAMIC 0.1 25V
C22	1-163-038-11	s	CHIP CERAMIC 0.1 25V
C23	1-126-157-11	s	ELECT 10 20% 16V
C24	1-124-464-11	s	ELECT 0.22 20% 50V
C26	9-994-780-01	s	P-P CONDENCER 0.0047
C28	1-124-438-11	s	ELECT 1 20% 50V
C29	1-124-584-11	s	ELECT 100 20% 10V
C30	1-131-347-00	s	TANTALUM 1 10% 35V
C31	1-126-157-11	s	ELECT 10 20% 16V
C32	1-163-133-11	s	CHIP CERAMIC 470PF 5% 50V
C33	1-126-157-11	s	ELECT 10 20% 16V
C34	1-126-162-11	s	ELECT 3.3 20% 50V
C35	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C36	1-124-455-00	s	ELECT 100 20% 16V
C37	9-994-777-01	s	ELECT 220 6.3V
C38	1-130-481-11	s	CAP,PE TEREPHTHALATE 0.0068 5% 50V
C40	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C43	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C44	9-994-782-01	s	TANTALUM 47 16V
C46	1-126-162-11	s	ELECT 3.3 20% 50V
C48	9-994-783-01	s	0.0056 100V
C49	9-994-778-01	s	ELECT 22 63V
C50	9-994-784-01	s	0.0015 1K
C51	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C52	9-994-779-01	s	ELECT 56 16V
C53	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C54	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C55	1-163-088-11	s	CHIP CERAMIC 0.1 25V
CN4	9-994-791-01	o	RECEPTACLE, 7P
CN7	9-994-792-01	o	RECEPTACLE, 3P
CN8	9-994-793-01	o	RECEPTACLE, 2P
D2	8-719-914-42	s	DA204K
D4	8-719-911-19	s	1SS119
D5	9-994-773-01	s	ERA15-06
D6	9-994-774-01	s	1SS136
D7	8-719-948-45	s	ERA22-08

Ref. No.	Part No.	SP	Description
HLC	1-459-823-11	s	COIL,HORIZONTAL LINEARITY
⚠IC2	8-759-300-28	s	HA11423MP: HITACHI
IC3	8-759-100-94	s	μPC358G2:
Q10	8-729-881-23	s	2SC2812-L7
Q11	8-729-881-23	s	2SC2812-L7
Q12	8-729-100-76	s	2SA812
Q20	8-729-881-23	s	2SC2812-L7
Q21	9-994-771-01	s	2SD1220
Q22	8-729-119-00	s	2SK612
Q23	8-729-162-43	s	2SB624-BV3
⚠R43	1-216-109-11	s	CHIP 330K 5% 1/10W
R44	1-216-083-11	s	CHIP 27K 5% 1/10W
R60	1-216-057-11	s	CHIP 2.2K 5% 1/10W
R61	1-216-057-11	s	CHIP 2.2K 5% 1/10W
R66	9-994-785-01	s	10M
R67	9-994-786-01	s	91K
R69	1-216-081-11	s	CHIP 22K 5% 1/10W
R70	1-216-079-11	s	CHIP 18K 5% 1/10W
R72	1-216-081-11	s	CHIP 22K 5% 1/10W
R73	1-216-081-11	s	CHIP 22K 5% 1/10W
RV10	9-994-787-01	s	5K
RV11	9-994-788-01	s	5K
RV12	9-994-789-01	s	200
RV13	9-994-790-01	s	500
⚠RV20	1-228-459-11	s	METAL 10K
RV21	1-228-458-11	s	METAL 5K
⚠T1	1-439-419-11	s	FBT

SW BOARD

Ref. No.	Part No.	SP	Description
	1-589-129-11	o	MOUNTED CIRCUIT BOARD "SW" (J,UC)
	1-589-129-21	o	MOUNTED CIRCUIT BOARD "SW" (EK)
C1	1-124-438-11	s	ELECT 1 20% 50V
C3	1-124-584-11	s	ELECT 100 20% 10V
C4	1-124-584-11	s	ELECT 100 20% 10V
C5	1-126-154-11	s	ELECT 47 20% 6.3V
C6	1-124-438-11	s	ELECT 1 20% 50V
C7	1-124-462-11	s	ELECT 10 20% 16V
C8	1-163-113-11	s	CHIP CERAMIC 68PF 5% 50V
C9	1-163-105-11	s	CHIP CERAMIC 33PF 5% 50V
C10	1-163-015-11	s	CHIP CERAMIC 0.0033 10% 50V
C11	1-163-038-11	s	CHIP CERAMIC 0.1 25V
CN1	9-994-803-01	o	8P
CN2	9-994-804-01	o	3P
CN3	9-994-805-01	o	5P
CN4	9-994-806-01	o	7S
CN5	9-994-807-01	o	2P
CP	9-994-808-01	s	PROTECTORS ICP-N10(EK)
D1	8-719-914-43	s	DAN202K
⚠IC1	8-759-630-27	s	M5236ML: MITSUBISHI
L1	9-994-800-01	s	100μH
L2	9-994-801-01	s	47μH
LED1	9-994-802-01	s	SLH-56VT
Q2	8-729-881-23	s	2SC2812-L7
Q3	8-729-881-23	s	2SC2812-L7
Q4	8-729-881-23	s	2SC2812-L7
Q5	1-806-828-11	s	2SC2814
Q6	9-994-796-01	s	2SC3722K
Q7	9-994-796-01	s	2SC3722K
Q8	8-729-881-23	s	2SC2812-L7

Ref. No.	Part No.	SP	Description
⚠R2	9-994-799-01	s	CHIP 24K 5% 1/10W
R3	1-216-064-11	s	CHIP 4.3K 5% 1/10W
⚠RV1	1-228-473-11	s	METAL 5K
RV2	1-230-075-11	s	CARBON 2K "CONTR"
RV3	1-228-475-11	s	METAL 20K
RV4	1-226-368-11	s	CARBON 10K "BRIGHT"
S1	1-570-845-11	s	SLIDE "PEAKING ON/OFF"
S2	1-570-845-11	s	SLIDE "TALLY ON/OFF"

LED BOARD

Ref. No.	Part No.	SP	Description
	1-589-127-11	o	MAUNTED CIRCUIT BOARD "LED"
	9-994-810-01	o	LED PWB
CN9	9-994-809-01	o	RECEPTACLE, 5P
LED2	8-719-800-25	s	TLR109A
LED3	8-719-800-25	s	TLR109A
LED4	8-719-800-25	s	TLR109A
LED5	8-719-800-19	s	TL0102A

FRAME

Ref. No.	Part No.	SP	Description
Q1	8-729-315-63	s	2SB856

D-5. PACKING MATERIAL AND ACCESSORIES

Ref. No.	Part No.	SP	Description
	3-699-152-01	o	CUSHION, UPPER
	3-699-153-01	o	CUSHION, LOWER
	3-699-163-01	o	CARTON. INDIVIDUAL(UC)
	3-699-165-01	o	CARTON. INDIVIDUAL(EK)

DXC-325P (EK)
9-967-170-22

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